PRINTING EQUIPMENT ENGINEER

Edited for those concerned with the use and care of Printing Equipment

APRIL 1932

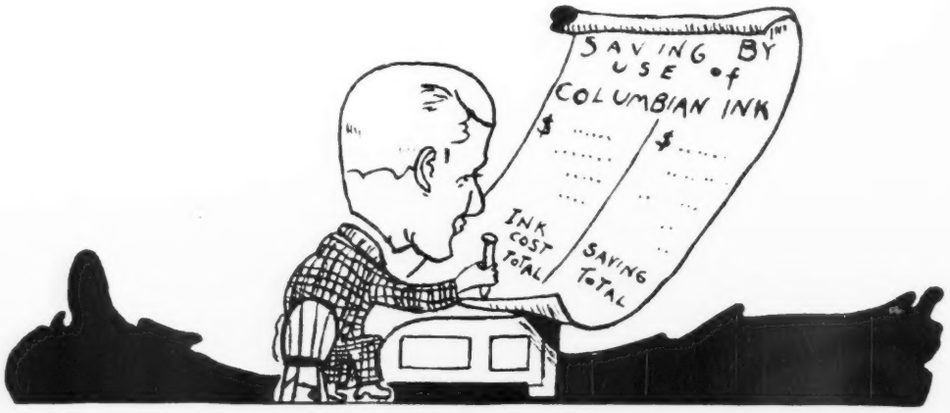


FIGURE IT OUT YOURSELF

We can't tell you how much Columbian Ink will save you in a year in dollars and cents. But we do know you will be satisfied with the showing.

We believe at the end of the year that you will be agreeably surprised at the saving. Columbian goes a long way to make friends. Many newspapers have had this experience with

COLUMBIAN INKS

THE L. MARTIN COMPANY
45 E. 42ND. ST.
NEW YORK, N.Y.

A.S. THOMPSON
MANAGER.

BUILDING HOUSING THE COMPOSING ROOM OF THE NEW YORK JOURNAL-AMERICAN

The New York JOURNAL-AMERICAN *Gets Results with the* LUDLOW

SOME months ago the New York Journal-American provided itself with a complete Ludlow equipment adequate for its very heavy load of display composition for both newspapers. The big bulk of this load is now carried on the Ludlow.

The Journal-American finds the Ludlow System economical in operation and satisfactory in results. In view of its very complete experience with single type systems and equipment, this finding has, clearly, unusual significance.

At present not a penny of direct operating expense precedes the actual composition. No type has had to be made, no storage system maintained, no cases laid and kept filled up.

By gathering and spacing matrices in the Ludlow way, display lines are produced in less time; the all-slug make-up expedites all subsequent handling in the composing room—with make-overs facilitated and subsequent operations reduced to the minimum.

IF economical and effective production of display composition interests you, let us present proof of the advantages the Ludlow offers in your composing room.

This advertisement is set in Ludlow Nicolas Jenson and Nicolas Jenson Bold with its italic

LUDLOW TYPOGRAPH COMPANY · 2032 Clybourn Avenue, Chicago

Here's what The Atlantic Electrotype & Stereotype Co. Inc. thinks of

G-E Electric Heat

Brass-plating bath heated by a G-E lead-covered immersion unit

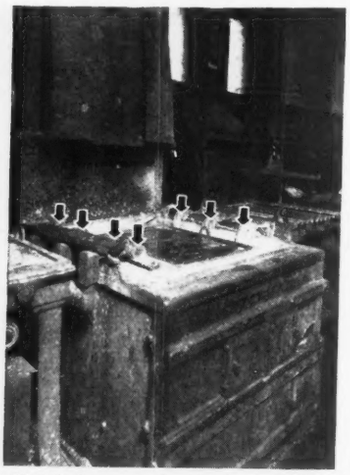
This progressive New York City electrotyper, one of the largest in the country, has installed G-E electric heat in every device in the plant where heat is required.

We asked the president, Robert Schaefer, for the facts. Here they are:

1. Greater uniformity in the work because of the accurate, automatic temperature control
2. Better working conditions
3. Greater safety
4. With perfect heat, the job of getting out A1 work is put squarely up to the operators
5. Mr. Schaefer is convinced that electric heat is costing him no more, and probably less, than the fuel heat formerly used

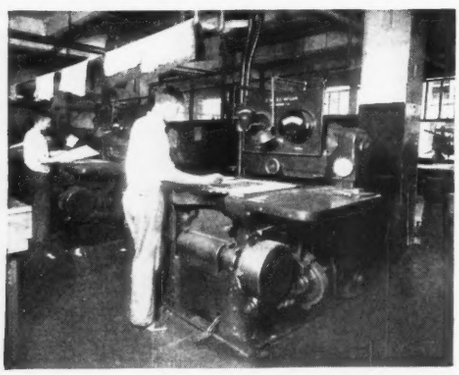
The G-E heating specialist in the nearby sales office will visit your plant and recommend the units that will change over your plant to electric heat in as short a time as a single week-end. He'll also tell what it will cost to install and operate. You'll be pleasantly surprised. Call him.

Two Wessel case-warming cabinets each equipped with two G-E strip heaters



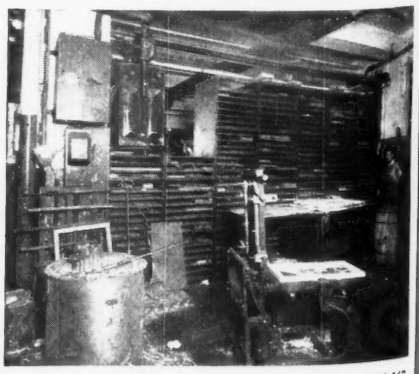
Wessel electrotype furnace heated with seven G-E electrotype immersion units

One of three Wessel warming tables each equipped with three G-E strip heaters



← *Three Wessel molding presses each equipped with 27 G-E sheath-wire units*

One of two G-E melting pots for stereotyping →



570 167

GENERAL ELECTRIC

SALES AND ENGINEERING SERVICE IN PRINCIPAL CITIES

PRINTING EQUIPMENT ENGINEER

TRADE MARK REGISTERED U. S. PATENT OFFICE. ESTABLISHED 1910

VOLUME 44
APRIL, 1932
NUMBER 1

W. D. WILL, Publisher

MAC SINCLAIR, Editor

In This Issue:

Electric Eye Composes Type - - - - - - - 7
LeGette Blythe

The Efficient Executive - - - - - - - - - 8
Editorial

Relation of Press Speeds to Production - - - 9
John J. Maloney

The High Cost of Obsolescent Equipment - - 10
H. A. Porter

Managing the Monotype Department - - - 11
Jack Gill

Removable Lid for Stereotype Pots - - - - 12
F. E. Campbell

The Composition of Inks - - - - - - - - 13
S. L. Karpeles

March Patents - - - - - - - - - - - - 14

Humidity—Moisture in Atmosphere - - - - 15
M. E. Hanson

Offset Plate Graining - - - - - - - - - 20
Frank O. Sullivan

A. S. Harris—Engineer - - - - - - - - - 24

New Catalogs, Books and Bulletins - - - - 28

Latest Printing Equipment Mechanisms - - 30

7000 Mi. in 14 Min. - - - - - - - - - 34

Let others also read *The Engineer*

After you have read this copy, pass this magazine along to the other men in your organization. They will undoubtedly get helpful ideas from its pages.

Check in left column after reading. Note articles of interest.

☐ *Composing Room Superintendent*

☐ *Superintendent, Press Room*

☐ *Chief Composing Room Machinist*

☐ *Superintendent Stereotype Foundry*

☐ *Monotype Department*

☐ *Photo Engraving Department*

☐ *Superintendent Electrotype Department*

☐ *Foreman Lithographing Department*

☐ *Bindery Foreman*

☐ *Production Manager*

☐ *Mechanical Superintendent*

☐ *Manager*

☐ *Purchasing Agent*

PUBLISHED MONTHLY AT
1370 Ontario Street • CLEVELAND, OHIO

EASTERN OFFICE: S. M. Goldberg, Graybar Building, 420 Lexington Avenue, New York, N. Y. Phone, Mohawk 4-5232

Copyright 1932 by W. D. Will, Trade-mark Registered U. S. Patent Office; Single copy $.25; subscription price, $2.00 per year, in advance. PRINTING EQUIPMENT ENGINEER is fully protected by copyright and nothing that appears in it may be reproduced either wholly or in part without permission.

CLEAN *Strings*
vs
LONG *Strings*

THE day is not far off when type-setting machine operators will be required to set clean strings rather than long ones. Clean, errorless production is the only worthwhile production. It costs more to correct one error than it does to set three errorless lines of straight matter.

The Black and White Contrast Matrix is rapidly making both the operator and owner "error-conscious." Without Black and White, too high a precentage of every operator's time is necessarily spent making errors and correcting them.

With Black & White a reduction of at least 25% of all errors is guaranteed. And this saving should interest every plant superintendent or owner.

Write for complete information concerning Black and White. Ask us to explain how we prove a saving of at least 25% of all error-making in every plant before we completely process the matrix equipment.

Matrix Contrast Corporation

(Sole Licensees of the Percy L. Hill Black and White Patents No. 1466437, held valid by U. S. District Court, Eastern District of New York. Infringers will be vigorously prosecuted.)

33 West 42nd Street, New York

BLACK & WHITE
Contrast *Matrix*

"Contrast Provides VISIBILITY"

PRINTING
EQUIPMENT
ENGINEER
April, 1932

Electric Eye Composes Type

By LeGette Blythe*

The Semagraph, an invention of Buford L. Green, 40-year-old Linotype machinist on The Charlotte (N. C.) *Observer*, was successfully demonstrated at Charlotte on March 28, before some of the leading newspaper executives of the United States.

The new device accurately and speedily operates Linotype and Intertype composing machines automatically.

Those who saw Mr. Green demonstrate his invention pronounced it a marvelous contribution to the newspaper and publishing business. Mr. Green and his financial sponsor and associate, Curtis B. Johnson, publisher of The Charlotte *Observer*, have announced no plans for the manufacture of the Semagraph, which is fully covered by patents. It is the product of more than two year's full-time work.

Guests at the demonstration frankly admitted that the Semagraph is practicable in all respects and forecast that the Associated Press, the United Press, the International News Service and other wire services would be using it soon.

The Semagraph is adaptable not only to newspaper composition, but since it will produce all sizes of type set by the Linotype and Intertype machines, it can be applied to the operation of composition for magazine and book publishing offices.

The Semagraph eliminates approximately 100 parts in the Linotype. It fits in the space regularly occupied by the keyboard and eliminates the 91 keyboard cams.

The operation of the composing machine by the Semagraph is quite simple. It uses a specially prepared translucent copy paper that is typed on a typewriter built for that purpose by the Remington Rand Typewriter company. This typewriter writes a line corresponding to the line that is set up on the Linotype as operated by the Semagraph. In other words, the typewriter writes a line only one column wide, just as the Linotype sets a line one column wide. This typewriter writes the words and characters just as the ordinary typewriter does, but under each word or character is a six-place dot code. The typewriter is equipped with a scale for line measurement which enables the operator to type copy line for line as it is to be set.

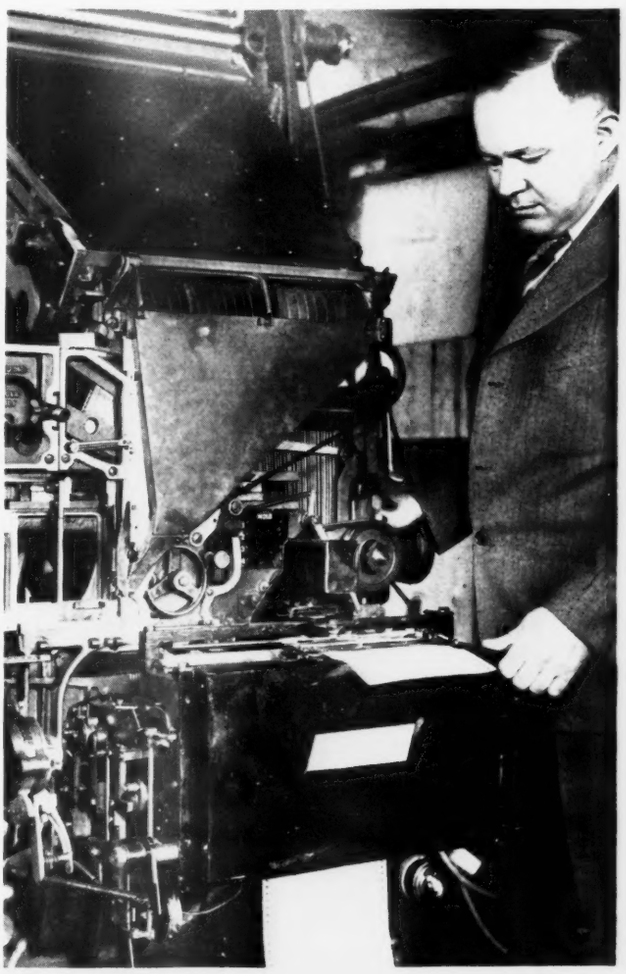
The principle of the Semagraph is the photoelectric cell. This is the one new idea as conceived and perfected by Mr. Green. Other inventors have toyed with the idea of an automatic typesetter for years, but he is the first man to use the almost human photoelectric cell as the "brains" of the typesetting machine.

The specially prepared copy is placed in the Semagraph and a light playing from above the copy in a tiny pencil point of brightness follows this dot-code which blocks the light or lets it through a tiny, almost invisible aperture that in doing so controls the typesetting through the photoelectric cell.

In the demonstration the Semagraph set type at a speed of six lines a minute. Its speed, however, is limited only by the capacity of the type setting machine, Mr. Green explained. It is capable of 2,400 light changes a minute. At the rate of six light changes to each character this would be 400 characters a minute.

Editors will find no difficulty in handling copy, since it has the ordinary letters and characters above the code line that controls the operation of the Sempagraph.

The Semagraph stops the Linotype if a mistake is made, just as is the case when the machine is being operated by a Linotype operator. When a mistake is made in writing copy and the mistake is blotted out, the Semagraph in reaching this point in the copy skips over it but does not skip a corresponding space in the composition. The emphasis in newspaper offices in the future will be upon accurate writing of copy, since what goes into the Semagraph comes out in print, unless



*Charlotte Observer, Charlotte, N. C.

mistakes in this way are blotted out. If the mistake is passed over without being noticed by the reporter or editor, then the mistake can later be rectified by rewriting the line, just as it is now done in correcting mistakes as pointed out by the proof reader. The new invention will place emphasis upon the correct production of copy rather than upon proofreading.

The new Remington typewriter is motor-driven and operates with the mere touch of the letters or characters by the typist. This makes for evenness of code impressions. The chief engineer of the company came to Charlotte to plan with Mr. Green the sort of machine to be perfected for use in connection with the Semagraph. The typewriter has the standard keyboard, but adds certain shifts and other minor changes. A person who has been using a standard typewriter can change to this machine with no difficulty.

Among those who witnessed the demonstration were: W. J. McCambridge, personal representative of Kent Cooper, general manager of the Associated Press; Cranston Williams, secretary-manager of the Southern Newspaper Publishers' Association, Chattanooga, Tenn.; Col. Guy T. Viskniskki; W. E. Wines, manager, mechanical department of the A. N. P. A.; W. C. Dowd, Jr., publisher of the Charlotte *News;* A. L. Stockton, publisher of the Greensboro Daily *News;* J. F. Roche, representative of *Editor & Publisher,* E. P. Coles, general manager of the Charlotte branch of the General Electric Company, and J. A. Wallace, assistant manager; L. W. Adams, representing the United Press; A. F. Littlejohn of the Associated Press; A. L. Plexico of the A. F. Littlejohn of the Associated Press; A. L. Plexico of the Remington-Rand Typewriter Company; Curtis B. Johnson, publisher of the Charlotte *Observer;* and Col. Robert R. McCormick, published of the Chicago *Tribune.*

The Efficient Executive

[AN EDITORIAL]

THERE is much of interest for the mechanical executive in the proceedings of the Technical Conferences of the Printing Industries Division, A. S. M. E. All mechanical executives should have an intimate acquaintance with the engineering activities of the Division which have now reached a highly developed state. The papers delivered at the convention constitute a clearing house of information and should have the widest possible dissemination. Without something of the kind, the mechanical executive would "go stale" so far as keeping up-to-date in his profession is concerned.

Until a comparatively short time ago there had been no great change in newspaper production methods. Everybody tolerated reproductive equipment which turned out a readable black-and-white broadside containing crude illustrations having a woeful lack of detail. From time to time individuals with vision created refinements of the processes in use. These laid dormant in a more or less embryonic state for the simple reason that there was no demand for their introduction. However, in recent times, competition has made it desirable that the printing industry refine its processes, machinery and methods. This is the work of the engineer and the mechanical executive must lend an attentive ear if he expects to keep up with the changing conditions in the equipment field.

That the mechanical executive has something in common with the engineer in the discussions of the problems of the Printing Industries Division was pretty well established at the Third Conference where executives and labor officials were invited to take part in the program. The engineer heard about some of the problems of production which have been created by the demands of the publisher for greater speed and a wider application of the working tools, or the production problems created by the installation of new devices, all of which have not lent themselves to a completely satisfactory accomplishment of the desired result.

The mechanical executive in the printing industry is an engineer of production. His problems are a blend of human nature, efficiency, mechanics and scientific management. He is the link between business management and production. In order to be considered a successful administrator he must satisfy management's demand for efficient production at the least possible operating cost. How successful he is, is determined largely by his ability to manipulate the human equation in relation to production, for after all, no mere mechanism can be made to function any better than the operating intelligence behind it.

As to the relations between the engineer and the mechanical executive, one man's problems are analytical, the others are administrative. Each has a field wherein he labors but both fields of endeavor are cooperative. Without the engineer in the printing industry there could be no progress. The engineer solves problems and by the same token he creates them. New machinery, new devices and new methods often bring about problems which the production manager must solve.

This being the case, it is apparent that the mechanical executive who keeps himself informed about the latest developments in his industry adds immeasurably to his reputation as an efficient executive.

Relation of Press Speeds to Production

By JOHN J. MALONEY*

WE HAVE been asked to present the pressroom workers' angle toward the attainment of "high-speed" productivity upon the high-speed presses that have been installed in the majority of our newspaper pressrooms.

The pressroom worker is naturally concerned in this, because the printing-press manufacturer has been spurred on by a strong competition and the trend of this progressive age to furnish our publishers with machinery that has been sold with the direct assurance that it has been built for high speed. In most instances the necessary motor drives have been attached so as to operate the press at such high speed, but the orders to operate it at high speed with its equivalent production have in some instances been found difficult because the essential requirements of the pressroom are complete products, well printed, carefully aligned, and properly folded. It is in our attempt to print such a product that our difficulties lie.

The true tests of press value are the quality of the product, the reliability and accessibility of the press, a dependable everyday average net production including every edition over a long enough period and with more than one press that will take in all operating conditions. There are no fast and hard rules as to what we can procure in the way of results or production upon the presses we use: our printing effects are the result of the coordination of the work done in the preparation and making of the plates we use; our production results are affected by the quality of the paper and the completeness of engineering design of the presses we operate. Most of you are engineers and can readily understand that there is no mutual arrangement in competitive manufacturing whereby one can take advantage of another's findings in his laboratory or experimental labor; that is what our patent laws were made for. So in our work we are confronted with the fact that one builder's machinery does things with mechanical features that are his alone, and the others must perforce develop some way to do it other than that way. We are in most instances working in a development or experimental stage. However, we believe most of those who judge us do not fully understand the technical operation of the pressroom.

This era of speed production has called for efficiency in man-power, and we have answered the call by making it possible for employers to pick and choose from among us as his representative may desire, and in the building up of apprentices we have established a school. This branch of the industry has proved very essential to help make the modern newspaper press successful.

PAPER

The most important factor in our work is the paper we use; for it is entirely due to its completeness in fabrical quality that we pull it through the press, and it is chiefly due to its finish and absorptive qualities that we get good printing. It is hard for us to believe that sufficient attention has been given to the manufacturing of newsprint in this decade that has seen so large a development in high-speed printing, for to the most of us the same inherent faults exist that troubled us in the past. Fiber checks, slush holes, uneven windings, poor finish and lack of tensile strength are continually evident, and we have an idea they will be with us until paper is made with definite specifications in formula and finish to answer individual requirements. As it is now, most paper is made for general consumption and is manufactured with economical measures that competition has compelled.

BLANKETS

The packing of impression cylinders is important in the production of newspapers. I can remember in the old days, prior to the invention of the present-day blankets which came into existence about 1914, the constant trouble that occurred in pressrooms with the old-style combination soft woolen blanket and muslin. These muslins had to be changed every 24 hours in the large newspaper pressrooms; it required about half an hour to change the tympan on a sextuple press. There also was another disagreeable job to perform; these soft woolen blankets created a bolster in the margins between plates and on ends of cylinders which caused considerable paper breaks. The only method we had at that time was to burn them down with a hot sóldering iron. This required much time and labor. The present method of packing cylinders is used a great deal throughout all parts of the world and has done more to make it possible for better quality of printing, increased production and efficiency than any other material used in the production of a newspaper.

INK

Every pressman is interested in producing a better-looking paper, and he is always up against many difficulties. These troubles must be overcome, and therefore good ink is essential—quality of the ink instead of the coverage. Good ink in the long run is the cheapest, because it goes a long way to help the pressman in producing the paper, both with regard to uniformity and cleanliness, and it is free from smudginess, etc. For after everything is said and done the men in charge of the pressroom, through years of experience, know that in order to meet exact schedules in producing the paper they must have the proper materials.

ROLLERS

In the matter of printing rollers, rubber has given us an improvement over the old-style composition rollers because of the fact that it will not melt or absorb moisture from the air; and because of the fact that it has not an affinity for ink, greater coverage can be obtained in the use of rubber in form-roller position.

Continued on page 27

*Assistant to the President, New York Newspaper Printing Pressmen's Union No. 2; Chairman of Newspaper Apprenticeship Commission, New York, N. Y. Paper delivered before the Third Technical Conference, Printing Industries Division, A. S. M. E., New York, N. Y., March 14-15.

We Appreciate This, Mr. Williams

Indianapolis, Ind., March 1, 1932.

Printing Equipment Engineer,
1370 Ontario St.,
Cleveland, Ohio.

Gentlemen:

Just a few lines to say that I receive PRINTING EQUIPMENT ENGINEER regularly and find it very enlightening. Each month it carries many valuable ideas to the heads of our mechanical departments.

Gratefully yours,
WM. H. WILLIAMS, *Mechanical Superintendent*,
The Indianapolis News Pub. Co.

The High Cost of Obsolescent Equipment

By H. A. Porter*

RECENTLY I discussed, "Executive Obsolescence," as fatal a thing as obsolescence of equipment. I know that no one of us likes to consider himself an obsolete executive and manager but unfortunately that is what some of our best known printers and lithographers risk today. Until we are willing to open our minds to necessary steps within our own businesses and to urge upon subordinates equally open minds, I do not see much hope for some concerns.

I have little sympathy with any blanket indictments of an industry, with any sweeping generalizations which accuse en masse. Such accusations indicate a lack of understanding of facts that may be had for the gathering. Printing is a business, the roots of which penetrate to the heart of our business and social and civic life. Its well-being is vital to all living today. I present you basic truths which will focus attention on serious situations that confront certain plants which are dropping behind through failure to modernize equipment, and which are threatened by the cancer of machine obsolescence.

Several weeks ago one of your leaders made a statement that I consider of sufficient consequence to call to the attention of the industry. He said, "I cannot run my business with obsolete equipment." In making this statement he stated not only a basic truth in manufacturing but applied it to his own business. In discussion of obsolescence and plant modernization, I want you to disregard my business connection and permit me to talk to you impersonally and frankly. I have no mean axe to grind in what I have to say to you. The subject is bigger and more vital than any company, or any product. I talk to you on a subject in which I believe wholeheartedly and which has given me grave concern for many of my friends. But the statement which I have quoted to you in part, completed was, "I am buying new presses because I cannot run my business with obsolete equipment."

Those of you who have failed to modernize machine equipment—failed either to undertake such a program or have left it unfinished, place your business unnecessarily in jeopardy. Development programs in machine equipment have obsoleted presses on the floors of many of you. You handicap yourself when the less than modern is forced to compete against the modern. I am not talking sales to you. I do that often enough in your plants. Equipment sales—forget it. I can be no more frank than to tell you that I hope you will modernize press equipment for your own profit regardless of what make you decide upon in the final analysis.

You are selling production—production of a wanted kind and quality. There are many jobs where it is madness to attempt to operate the big, slow moving flatbed in today's competition against the high-speed smaller rotary that more than doubles production. Conservatively, the rotary produces from two to two and one-half times the product. I think that there has been undue emphasis placed on the tremendously large sheet. At times, of course, it is necessary where bindery operations and other finishing operations are required. But you will agree with me that it was not so much a new process—whether it be offset, gravure, or letterpress rotary machines—that has had the most marked effect on the decreased use of two-revolution flatbed presses. It was the small high-speed automatic cylinder press which has thrown such a large number of flatbed presses on the second-hand market. The small automatic cylinder press produces at higher speeds, less plate cost, less make-ready cost, and with less spoilage due to the small sheet.

The average mechanical executive likes to feel that he is a Modern—up-to-date in all things pertaining to his profession in the management of Production. In order to maintain that quality it is necessary that he read about and mentally digest the opinions of leaders in the industry—from the engineering as well as the executive branches of the business, so that he may be in a position to discuss intelligently all phases of production when he is summoned before his "superior officer." These excerpts, taken from Mr. Porter's address are heartily commended to the serious consideration of our reader-executives.—Editor.

Consider the small high-speed, two-color rotary letterpress machine as compared with the two-revolution flatbed equipment. It can be proven that the smaller the form and the smaller the sheet, the less the plate and makeready cost. Too much emphasis has been placed on the large sheet. You are not selling sheets but completed units.

I believe that the use of smaller high-speed rotary letterpress machines will produce at very much less cost, even though the larger flatbed runs several more up on a larger sheet. Conclusive evidence can be given that running a job, for example, eight up instead of twelve, reduces not only plate cost but makeready cost and, by reason of the higher speed, reduces the total number of hours consumed for the job. It can be shown that two-color rotary letterpress machines have the same fixed charges except for initial investment as two-color flatbed presses of the same or slightly larger size. Labor, light, heat, power, and other fixed charges except interest and depreciation, are the same as on two-revolution machines. Even on the basis of 60% productive time, two-color rotaries should not add more than a dollar to the hour cost against slower flatbed presses. The rotary will produce in equal quality more than twice as much as the flatbed of the same or slightly larger size.

Hour costs increase 20 to 25%, yet production increases 2½ times. For whom then is the old press working? Your competition, of course. Is this sound business—worthy of the thought and the driving energy that built your business—to forego an investment that not only does not increase costs but lowers them. You may say that you cannot afford the investment. But what about the depreciation that you have been charging over the years on old presses? Be fair to your business, yourself, your work and also to your sales force. Use this money to purchase new equipment. You have in depreciation charges wiped off your books much old press equipment. Then why give to it a sentimental value? There is no gratitude in the worn-out or obsolete machine.

Need I sugar-coat or gloss over the facts we are discussing? Many of you are far along in press modernization pro-

Continued on page 29

*Vice President in Charge of Sales, Harris-Seybold-Potter Company, Cleveland, Ohio. Excerpts from address delivered before the Typothetae Franklin Association of Detroit, March 7, 1932.

Managing the Monotype Department

By JACK GILL

HOWEVER much critics may condemn new trends in type designs and typography the trends merrily keep on bringing with them new problems for composing room executives. The problem is one of replacement, how many faces to stock and why?

The day is past when a composing room can get along with a half-dozen type families. Today most of the old standbys are gathering the dust while a horde of new designs is sweeping over the country in a never-ending march. Whatever merit the new faces may have, it is certain that most of them lack staying power. This has been the experience of many composing room executives.

Regardless of what system of display composition happens to be in use in a particular plant the constant change in type faces is both troublesome and expensive unless proper steps are taken to organize the typecasting department to handle the matter intelligently. The great difficulty is in the accumulation of matrices, cases of type and storage that fast become obsolete and yet for a time have a popularity which bring an insistent demand from advertisers.

There is no entirely satisfactory answer to the problem. The new condition must be accepted whether we like it or not. Equipment in type faces has ceased to be a fixed quantity and the modern composing room must adjust itself to the idea of continual change. The first approach to the new problem, of course, is to make sure that there is a real demand for a certain type family.

ADJUSTING THE MONOTYPE SYSTEM

In adjusting the monotype system to the new conditions, the matter of housing a variety of type faces is part of the problem. Type cases and storage require room and those in charge must strives to solve the problem by using as little additional floor space as possible.

This is being done by a weeding-out process. Faces that have had their run or are replaced by newer types which will serve the purpose can be dispensed with to make room for the newer cuts. Again faces which have had a passing vogue can be worked out gradually, first by eliminating any storage and, secondly, by cutting down the number of cases to the minimum.

To offer a concrete example: Goudy Hand-Tooled, both Roman and Italic, had a wide usage in a particular plant prior to the Ultra Bodoni and Sans-Serif epidemic. At first it was laid in two cases of each point size with a storage adequate to support a heavy run.

The run lasted about two years in this plant when other types began to replace it. At first the storage was eliminated and as the demand grew less and less the series was carried by having only one case of each point size with the Italic and the Roman being placed side by side in one type cabinet.

One of the difficulties brought on by the new order is, perhaps, mental rather than real. Once a type face is installed, there is always some one about the place who is sure it simply can't be dispensed with. I recall wordy battles over the passing of DeVinne, Jenson, Century and others. But they went out as did others.

Excellent faces these, to be sure, but the important thing to be remembered is that the mats can be stored in small space. Should there come a renewed demand for these faces they can be recast and again put into use. There may be a return to the "really fine old faces" but the unmistakable trend is to "something new and good." At least we have plenty that is new.

There is no face so poor that it has no champion in the average office. What composing rooms need is executives brave enough to throw out type faces for which there is no demand, or type faces that greatly resemble one another or replace one another in type values. To illustrate: Some of us think that Goudy Bold and Cloister Bold with their italics replace Cheltenham Bold and its italic. Sort of a modernization if you will. But it takes a valiant foreman to dispense with Cheltenham.

THE PRODUCTION PROBLEM

So far as the Monotype System is concerned, the fact has to be recognized that it must be adjusted to new conditions. The department must be organized with the idea that type faces are constantly changing and the entire system must be flexible. The department must be ready to replace one face with another or to lay new faces with dispatch.

Recently in a large composing room, there was a demand for two new series of type, fifteen fonts in all, to be cast into thirty cases of type, twelve of which were to be made on the Giant Caster. Twenty-four hours later the Giant Caster cases were ready and in three days the entire job was completed. The machines, two type casters and one Giant Caster, ran day and night. This was an unusual demand occasioned by the opening of a great store whose executives insisted on a new dress of type to carry a large volume of advertising.

Those in charge of the matter in the composing room can, in most instances, change type families without any extra cost of production. Sometimes this type replaces other type and again it is a new installation. From an office of a comparatively few faces the composing room mentioned above has developed into one that carries a great variety of new type faces.

Continued on page 26

Removable Lid for Stereotype Pots

By F. E. CAMPBELL*

F. E. Campbell describes a new kind of cover for Autoplate Machine and details for construction of a water puddler.

WHEN the Citizen Publishing Company, Columbus, Ohio, decided last year to install electric units in the 8-ton autoplate machine, the open ends of the metal pot were insulated by spreading an asbestos-like material over the top of the molten metal.

We found, however, that the molten metal worked up through the powder and "froze" in hard chunks or pieces. The crust which formed on top of the metal was very difficult to melt in a dross burner. A sample of this crust when assayed contained a very high percentage of tin and antimony. Our plates began to show a very poor quality. This brought about the idea of a removable asbestos top or lid for the pot itself.

First, an angle iron was attached to the bottom or base of the hood which is, of course, nearly in the center of the pot. The lid itself rests upon this angle iron. The base of the lid, was made from black iron strips 1-in. wide and ¼ in. thick. These were laid criss-cross fashion 5 in. apart and spot-welded.

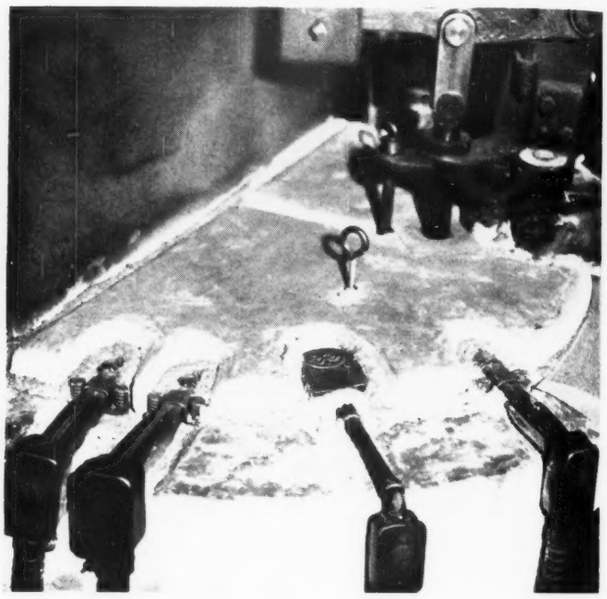
This makeup eliminated any chance for heat-buckling or distortion. Metal lath was securely fastened on top of the iron strips.

On the bottom of the lid and also on the metal lath a retort cement was used. Next to the cement were placed red-head magnesium blocks. Then the top was finished with asbestos plaster hardened with a little Portland cement. This made the lid 2½ in. thick.

We were particular about leaving at least ¼ in. space between the heat units and the lid to allow for expansion and contraction of the heat units. This opening is filled with asbestos rope.

With the metal at 600 deg. F. one can place his hand on this lid without discomfort or any possible chance of being burned.

We have been using this lid daily for almost 90 days. It is not bolted or fastened to the pot in any manner and can be removed or replaced in a few minutes. A ring bolt has been provided with which to lift the lid on or off the pot.



With the lid on the pot and the hood attached there is a space about 2½ ft. wide almost in the center of the pot covered only with the hood.

THE WATER PUDDLER

A 2½-in. pipe from the main water supply on the auto-plate casting box was run up to a point just at the top of the pot. A valve was placed at the outlet from the casting box and another valve in this pipe as it enters the pot. The pipe extends down into the pot nearly to the bottom of the metal itself.

From the outside of the pot to the bottom of the metal this pipe was reduced to ¼-in. size. As we operate the puddler it requires only a quarter-turn of the valve at the top of pot to give sufficient water for perfect agitation or movement of the metal as the water emerges from the pipe to a point almost in the center of the crucible.

*Superintendent, Stereotype Department, Columbus (Ohio) *Citizen*.

Joins Flint Company

Ed C. Walton, well known throughout the South for his twenty-five years' experience in the ink business, has joined the Howard Flint Ink Company organization.

The Flint Company has a complete new factory under construction in New Orleans. Mr. Walton will manage this factory, which will be in complete operation about May 15th.

The Composition of Inks

By S. L. KARPELES*

There are four essential factors in the production of a good job. These are good presses, good stock, good workmanship and good inks. Without any one of these any job will be a failure. Of these four, ink is undoubtedly the item of least expense and yet we all know how often it is the determining factor between a good job and a poor one.

COMPOSITION OF INK

1. The pigment which gives us color and body.
2. The vehicle or varnish which allows this pigment to be carried from the ink fountain through a series of rollers to the plate and finally to the paper.
3. The drier is the means of causing the ink to dry after it is printed. Of course all inks do not require driers. Such an ink is newsprint ink, where drying is not by oxidation of the varnish as it is in most other inks but merely the entire absorption of the varnish by the stock. This is what we call drying by absorption in contrast to drying by oxidation.

Printing ink is manufactured by first incorporating the varnish, pigments and driers of a predetermined formula in a mixer. These mixers are usually quite similar to an ordinary bread or dough mixer but for smaller quantities of inks the change-can type of mixer is handier. After being thoroughly mixed this unground ink is then sent in tubs to the mill or mills upon which it is to be ground. Printing ink mills consist of three horizontal steel rollers. These rollers are set very closely together so that the ink is ground by passing between them. The rear roller rotates very slowly towards the front of the mill. The middle roller rotates at three times the speed of the rear one but in the opposite direction and the front roller rotates three times again as fast as the middle one but to the front again. The ink having been placed at the back of the mill between the rear and middle rollers passes down between them and thus to the front roller from which it is scraped off by means of a knife blade. This process is repeated from three to ten times depending upon the softness of the pigment and the type of work for which the ink is to be used. The grinding action of this mill is both a rubbing and squeezing one. The rubbing is accomplished by the fact that the rollers are operating at different speeds and the squeezing is accomplished by setting the rollers very close together with a large set screw. These immensely heavy rollers are set so close together that if one were to put water between them it would not flow through.

PIGMENTS

In speaking of pigments it is proper to place blacks at the head of the list as they are the most important class of pigment. There are four different blacks. These are, in order of their importance, carbon black, lamp black, bone black and magnetic black.

Carbon black is manufactured by burning a large volume of natural gas in an insufficient supply of oxygen. This process causes a very smoky flame. The soot from this smoke is deposited on beams of iron or rolls and is scraped from them. This procedure is very wasteful of our natural resources as it takes approximately 1,000 cubic feet of gas to produce one pound of carbon black. It is so wasteful in fact, that many of our states have legislated against the use of natural gas for this purpose. The black produced by this process is far superior to any of the others in density and jetness of hue but when used alone it has an undesirable brownishness in undertone which must be neutralized by the addition of blue.

Lamp black is made similarly to carbon black but in place of gas, oil or pitch is burned. This process produces a black not as jet as carbon black but with a bluer undertone and it has certain advantages, in the production of grays and dull black inks.

Bone blacks are manufactured by heating bones, ivory dust and other such animal matter in a closed retort. This pigment is useless in the manufacture of good typographic or lithographic ink but it finds great use in the manufacture of copper plate inks because of its superior wiping qualities.

WHITE INKS

Although some printers may feel that the addition of white to a printing ink is an adulteration, it is not true, for the selection of the proper white is of equal importance to the selection of the proper color. There is an erroneous theory that a printed screen will give a true undertone of the color. This is not true as the screen is merely solid dots interspersed by the white of the paper, whereas the true undertone of a color is that tone we get when reducing the color with white.

Generally speaking there are two great classes of white inks, transparent and opaque. Of the transparent whites, Alumina Hydrate is the most transparent. Magnesium Carbonate, commonly known as Magnesia, is another quite transparent pigment and you can lay the blame at this pigment's door for the changing of many delicate tints after drying. The reason for this change is as follows: Magnesium Carbonate is not strictly speaking a neutral pigment as it contains a small amount of alkali inherent in its make-up. When the printer uses this pigment in combination with Persian Orange, Milori Blue and other non-alkali proof pigments, he will often find that the tint will be far different the day after than when first printed. Wherever possible, I would strongly recommend that when making up delicate tints you make it a practice to use alkali-proof pigments, then your troubles due to change of shade will be lessened considerably and once again it might be brought out that the slight increase in cost that this change might entail is more than compensated for in lessened worries and spoilage.

Another important transparent white pigment is Blanc Fixe or synthetic Barium Sulphate. I say synthetic sulphate because there is another chemical pigment used quite extensively in paint known as Barytes. This is identically the same chemical compound but differs from Blanc Fixe in that it is mined in its natural state and therefore very coarse and abrasive—whereas Blanc Fixe is precipitated and considerably softer. Gloss White is a precipitated mixture of Alumina Hydrate and Blanc Fixe and gives an almost ideal media for reducing the strength of colors.

(To be continued)

*Chief Chemist, Sinclair & Valentine Company, New York City. Address delivered before the Boston Club of Printing House Craftsmen.

Old Press Still Used

A Babcock printing press exhibited at the World's Fair in Chicago, thirty-nine years ago, and used continuously ever since, has been brought to the attention of the Babcock Printing Press Manufacturing Company. The present owner of the Press, H. S. Crow, of the Jefferson County (Mo.) *Republican*, recalls that his father first saw this press while it was being demonstrated at the Fair. It was printing a single 6-point letter on a sheet about one inch square. Mr. Crow states that he can still perform this "stunt" on the same press.

March Patents

Printed Copies of Patents are furnished by the Patent Office at 10 cents each. These may be obtained by addressing the Commissioner of Patents, Washington, D. C.

1,849,143. INKING SYSTEM FOR PRINTING PRESSES. Wallace H. Granger, San Francisco, Calif. Filed July 16, 1929. Serial No. 378,775. 13 Claims. (Cl. 101—365.)

1. In combination with a printing press, an electrical circuit for actuating the same, a rheostat for controlling the circuit, a second electrical circuit for actuating the rheostat, an ink-feeding mechanism for the printing press, a valve controlling the ink-feeding mechanism, and a motor for operating the valve and having its circuit shunted into the second circuit for opening the valve simultaneously with the closing of the rheostat, the opening of the valve varying in direct proportion to the length of time the secondary circuit remains closed.

1,849,219. PRINTING PRESS. Frank R. Belluchi, Racine, Wis. Filed Oct. 19, 1929. Serial No. 400,843. 1 Claim. (Cl. 191—184.)

In a printing press, a plurality of printing units in end to end arrangement, each unit having a delivery mechanism arranged to feed the following unit, drive means including a motor for each unit, an electric control for the motors including a plurality of manually actuated switches, a switch incorporated within the electric control, one position of the switch placing the control in a condition whereby all of the manually actuated switches control all but the drive motors, and another position of the switch placing the control in a condition whereby the manually actuated switches of each unit effect only the drive motor of their respective unit, mechanical means for coupling the drive means of the units, and means whereby setting of the mechanical means simultaneously moves the switch within the electrical control to its position corresponding to the position of the means for coupling the drive means of the different units.

1,849,313. SHEET FEEDING MECHANISM FOR PRINTING PRESSES. Charles F. Root, Cleveland, Ohio, assignor to The Chandler & Price Company, Cleveland, Ohio, a Corporation of Ohio. Filed Apr. 18, 1921. Serial No. 462,256. 57 Claims. (Cl. 101—287.)

1. In mechanism of the character described, the combination with a support movable in an approximately horizontal plane, of means including a sheet engaging and moving device carried by said support, said device being movable transversely of said support in a general vertical direction, and means carried by said support connected with said device and operable independently of the movement of said support adapted to control such movement of said device.

1,849,315. FEEDING MECHANISM FOR PRINTING PRESSES. Charles F. Root, Cleveland, Ohio, assignor to The Chandler & Price Company, Cleveland, Ohio, a Corporation of Ohio. Filed Feb. 9, 1923. Serial No. 617,973. 22 Claims. (Cl. 101—287.)

1. In mechanism of the character described, the combination of a movably supported horizontally extending arm; a sheet engaging and moving finger carried by said arm; and means adapted automatically to impart a compound movement to said finger in the path of travel imparted thereto by said arm incidentally to movement of the latter, substantially as described.

1,849,544. PROCESS OF AND APPARATUS FOR PRODUCING PRINTING PLATES. Walter Howey, New York, N. Y. Filed Jan. 31, 1930. Serial No. 424,809. 6 Claims. (Cl. 30—24.4.)

3. An engraving system comprising photoelectric means for scanning the pictorial characteristics of a subject, an aperiodic vacuum tube amplifying system responsive to the scanning, indicating means for observing the response of the amplifying system to the pictorial characteristics of the subject, a power control in the amplifying system, indicating means for observing the response of the amplifying system to the power control, and means for engraving a reproduction of the subject for direct printing.

1,849,568. FEEDING MECHANISM. Cully A. Cobb, Atlanta, Ga. Filed June 12, 1929. Serial No. 370,388. 9 Claims. (Cl. 270—44.)

1. A feeding mechanism for supplying covers in the form of a continuous web to a folding and associating machine including a pair of feed rolls, means to vary the speed of said feed rolls to maintain registry with said folding and associating machine, and means to change the rate of feed of said web to successively supply a predetermined number of covers to the folding and associating machine.

1,849,598. PRINTING PLATE AND METHOD OF MAKING THE SAME. James T. Simms *and* George A. Simms, Chicago, Ill., assignors, by mesne assignments, to Burton R. Herring, Chicago, Ill. Filed Nov. 26, 1928. Serial No. 321,817. 14 Claims. (Cl. 101—401.1.)

1. A printing plate having relatively high and low portions defining impression characters all joined integrally with vents leading to certain of the low portions, and a water receptive facing adhered to the plate at every point over its printing surface and entering the vents therein.

3. The process of making plates for use with water color inks consisting of covering the printing surface of a plate of the type used in printing oil-soluble inks with a thin surface layer of unvulcanized rubber, resiliently pressing said rubber covering intimately into contact with the printing surfaces of said plate to impose a surface skin thereon, and vulcanizing said surface skin.

1,849,958. TABLOID SHEET SLITTER. Oscar Charles Rofsen, Brooklyn, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a Corporation of Virginia. Filed Sept. 19, 1927. Serial No. 220,431. Renewed Aug. 21, 1931. 14 Claims. (Cl. 270—86.)

3. In a folding machine, the combination with means for feeding a longitudinally folded web, of a shaft arranged transverse to the direction of the web, and a slitter on said shaft located in position to slit the web along the longitudinal folded line.

1,847,621. STEREOTYPE CASTING MACHINE. James T. Mahan, Akron, Ohio. Filed Aug. 2, 1930. Serial No. 472,504. 6 Claims. (Cl. 22—2.)

1. A stereotype casting machine comprising a head, a movable core, a matrix support at the base of the cavity between the head and the core, a pouring sheet movable into the cavity, a support from which the pouring sheet is suspended at spaced points so that its lower edge overlaps the matrix, and individually adjustable members on said support whereby the lower edge of the pouring sheet may be located with respect to varying matrices.

1,847,639. MULTICOLOR ROTARY PRINTING PRESS. Howard M. Barber, Pawcatuck, Conn., assignor to C. B. Cottrell & Sons Company, Westerly, R. I., a Corporation of Delaware. Filed Jan. 12, 1931. Serial No. 508,065. 12 Claims. (Cl. 270—4.)

1. In a multicolor rotary printing press, first and second printing units operable when connected to print on both sides of one web and when disconnected to print on one side only of two webs, means for connecting and disconnecting said units, a sheet cutting and folding mechanism, and manually operated means for connecting it to the second printing unit.

1,847,812. SHEET HANDLING APPARATUS. Thomas F. Burton and Arthur L. White, Youngstown, Ohio. Filed July 10, 1929. Serial No. 377,113. 20 Claims. (Cl. 214—1.)

1. Sheet handling apparatus, comprising, in combination, means for separating a plurality of sheets at one time from the top of a pile of sheets, means for predetermining the number of sheets so separated, means for moving such sheets from the top of said pile, and means for turning the sheets on edge.

1,847,847. JUSTIFYING DEVICE. Vincent E. Poeppelmeier, Dayton, Ohio. Filed June 23, 1930. Serial No. 463,140. 7 Claims. (Cl. 101—403.)

1. A justifying type piece having a foot portion of definite width and having a top portion of variable width.

1,848,439. PRINTING PRESS. Ernest James Smith, London, England, assignor to Goss Printing Press Company, Chicago, Ill., a Corporation of Illinois. Filed Jan. 23, 1930. Serial No. 422,905. 7 Claims. (Cl. 270—5.)

1. In a printing press mechanism, the combination of means for printing and folding a plurality of pages into a unit product, auxiliary printing means for printing a distinctive marking on the outside face of a unit, a swingingly mounted arm upon which said auxiliary printing means is mounted, a gear carried by said arm and meshing with a gear on the press for driving said auxiliary printing means and adapted to remain in mesh when the arm is swung, and cam means driven in fixed speed relation to the press adapted to give said arm a swinging movement for moving said auxiliary printing means into and out of printing position and causing it to print on only certain units separated from each other in the run of the press by a predetermined number of intervening units.

1,848,591. HIGH SPEED PRINTING PRESS. Henry A. Wise Wood, New York, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a Corporation of Virginia. Filed May 26, 1926. Serial No. 111,787. 17 Claims. (Cl. 270—6.)

1. In a multiple unit printing press, the combination with a plurality of printing units, a series of shafts extending along the line of units, means for coupling the shafts together end to end, and means for driving several of the shafts, some of them independently of the others, of a web feeding device below each press unit, a propelling roll, propelling tapes on the roll, and rolls cooperating with the propelling tapes, the propelling roll being positively connected with one of said shafts to rotate at web speed for delivering the web to the press unit above.

1,848,592. AUTOMATIC STEREOTYPE PLATE CASTING MACHINE. Henry A. Wise Wood, New York, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a Corporation of Virginia. Filed June 28, 1928. Serial No. 288,847. Renewed June 29, 1931. 38 Claims. (Cl. 22—3.)

1. In a stereotype plate making machine, the combination with an upright cylinder, an upright back, a pouring device and a plate trimming device, of a source of power, an element to which the source of power is connected to operate continuously and means operated by said element for automatically intermittently rotating the cylinder, reciprocating the back horizontally, pouring the metal into the circular end of the mold and trimming the tail off the plate.

1,848,593. SELF ACTING STEREOTYPE PLATE MAKING MACHINE. Henry A. Wise Wood, New York, N. Y., assignor to Wood Newspaper Machinery Corporation, New York, N. Y., a Corporation of Virginia. Filed Apr. 19, 1929. Serial No. 356,494. Renewed June 29, 1931. 46 Claims. (Cl. 22—2.)

1. In a stereotype plate casting machine, the combination with a mold comprising a movable back and a motor for operating it, of an electric circuit in which the motor is located, a push button in the circuit for starting the motor, and means whereby when the back is opened said circuit is opened and the motor is stopped.

1,849,045. DISPATCH CONVEYER FOR NEWSPAPERS OR THE LIKE. Otto R. Wolf, River Forest, Ill., assignor to The Tribune Company, Chicago, Ill., a Corporation of Illinois. Filed Sept. 19, 1929. Serial No. 393,632. 7 Claims. (Cl. 198—165.)

4. A dispatch conveyer comprising a vertical section consisting of a plurality of sets of traveling wires between which the papers are adapted to be gripped, a horizontal section, and a tension device for directing the papers around the curve from one of said sections to the other, said device being connected with one of said sets of vertical wires and being movable under pressure from an accumulation of papers to relieve the tension upon the papers at the curve and to separate said sets of vertical wires whereby the tension exerted by the latter upon the papers may be lessened to relieve congestion in case of a choke-up in the conveyer system.

1,850,217. CUTTING AND FOLDING MECHANISM FOR USE WITH WEB PRINTING MACHINES. Louis A. Schmidt, Brooklyn, N. Y., assignor to R. Hoe & Co., Inc., New York, N. Y., a Corporation of New York. Filed Jan. 22, 1929. Serial No. 334,338. 7 Claims. (Cl. 270—42.)

1. In a folder for a web printing machine, a pair of formers, a pair of delivery mechanisms, separate cutting and folding mechanisms located between each former and its delivery mechanism and means for associating the products from both of the formers after they are cut, and folding them together and delivering them as a complete product.

1,850,653. SHEET REGISTERING DEVICE FOR USE IN PRINTING AND THE LIKE MACHINERY. Arthur Bingham, London, England. Filed July 22, 1930. Serial No. 472,688, and in Great Britain Aug. 2, 1929. 3 Claims. (Cl. 101—242.)

1. A sheet registering device adapted to be employed in connection with impression cylinders of printing presses or the like, comprising, in combination, a stop disposed adjacent the periphery of said cylinder and comprising a pivoted member carried by said cylinder and adapted to receive the leading edge of an incoming sheet and correctly register the same, and a cam adapted to actuate said stop to cause it to remain stationary during the registration of the sheet and to move together with said impression cylinder when registration is effected.

1,850,932. PAPER HANDLING MACHINE. Walter Holms, Cleveland, Ohio, assignor to The Cleveland Folding Machine Company, Cleveland, Ohio, a Corporation of Ohio. Filed Aug. 13, 1928. Serial No. 299,278. 10 Claims. (Cl. 271—64.)

1. In a paper handling machine, means for directing sheets into different courses comprising a rotably mounted deflector, power means tending to rotate said deflector in a given direction, means adapted to hold said deflector in any one of a plurality of angular positions, and mechanism actuated by the travel of the sheets themselves for operating said last named means to permit said deflector to advance under the influence of said power means from one angular position to another angular position.

Humidity—Moisture In Atmosphere

By MILTON E. HANSON*

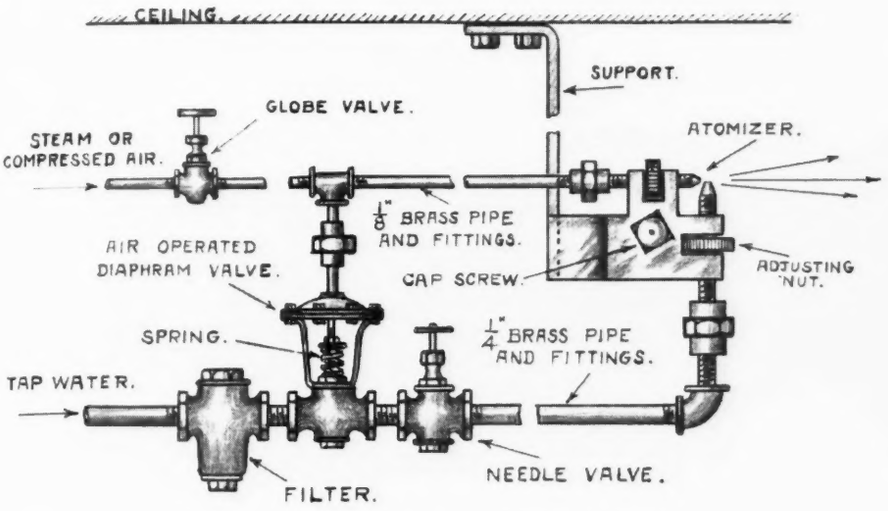


Figure 3

PART II

If the foregoing examples are followed through on the chart (Figure 2) several times the use of the chart becomes perfectly obvious. Such a chart must be used in connection with the control of apparatus for the purpose of liberating moisture into the air.

If we are to increase the moisture content of the air, spoken of in terms of per cent relative humidity, water must be evaporated. This takes heat no matter how it is done. Just how much water to add in each individual case and how much heat will be required is a more involved subject. Wherever it is necessary that this be calculated in advance it is best to rely upon an air-conditioning engineer or upon the sales engineers from manufacturers of humidifying apparatus.

The simplest device for dispersing moisture into the air is shown in Figure 3, involving the well-known atomizer principle. When the steam or compressed air is turned on, the pressure on this line opens the diaphragm valve in the tap water line admitting the water to the atomizer. The spring on the stem of this valve immediately closes the valve and shuts off the water the moment the steam or air supply fails or is shut off. The whole device can be home-made from ¼-in. brass pipe and fittings. The atomizer may be made of two threaded nipples 6 in. long with an end of each swedged down to close the hole or filled with solder and turned down to a smooth cone. Drill a new hole through the cones, about 1/16 in. diam. for the air and 1/32 in. diam. for the water. These holes may be larger or smaller according to the capacity required. The sizes are somewhat affected by the air and water pressures also. The nipples may be mounted between two blocks of metal, held together by means of a cap screw or bolt and so fashioned as to admit of the adjusting nuts and movement of nipples when the cap screw is loosened. One of the blocks may be attached to or a part of the supporting piece. Air pressures may be as low as three lbs. A needle valve may be required to regulate the water pressure at the atomizer. Roughly about 5 cu. ft. of air or 1/10 lb. of steam at 3 to 5 lbs. pressure will be required to atomize one lb. of water per min. The top of the cone on the water nipple should be

Figure 4

*Mechanical and Chemical Engineer, Collingswood, N. J. Member American Society Mechanical Engineers.

slightly truncated with a flat top and both cones adjusted to position so as to get the finest spray. The finer the spray the more area of water surface is presented to the air for the purpose of absorbing heat from it. As fast as the heat is absorbed the water evaporates from the surface of each drop until it completely dis-

Figure 5

appears into the air. The surrounding air becomes somewhat cooler. One pound of 55 deg. tap water atomized into the air when the wet bulb thermometer reads 68 deg. requires 1065 b.t.u. taking this heat from the air. If it is found that a certain room requires 60 lbs. of water per hour to maintain a desired humidity condition, "believe it or not," this requires about 70 additional pounds of steam per hour condensed in the room heating system which figures back to about 10 additional pounds of coal per hour necessary to be burned under a boiler of average efficiency. Such an atomizer should not be located too near a machine or a cold wall and preferably over an aisle or clear floor space. Several atomizer heads may be operated through one diaphragm valve in the water supply.

Figure 4 shows a self-contained automatic humidifier for office or residence. The picture shows the first one under test. They will soon be on the market to sell for about $175.00. There are hot water or steam pipes of the expanded surface type inside which are connected to the regular heating system as is an ordinary radiator. Tap water is brought into the cabinet and allowed to trickle down over the hot pipes. A small two-speed electric fan behind the pipes draws the air in at the ends and discharges the conditioned air out through the front. The tap water supply and the steam heat is under adjustable thermostatic control inside the cabinet. In this device the heat for vaporization is supplied direct from the heating system instead of indirectly as in the case of the atomizer.

Figure 5 shows a popular type of unit heater for factory use. It consists of a two-speed electric fan mounted at the rear, discharging the air over hot expanded-surface steam pipes and out through the front. These lend themselves perfectly to automatic temperature control for any desired fixed dry bulb temperature. These units may be purchased for as low as $80.00. One or two of these units may be arranged in a room to do only a part of the heating yet control a fixed temperature point very nicely by placing a dry bulb controlled valve in the steam supply piping. They keep the air in circulation and at a uniform temperature throughout the room while the fan is running. By placing an atomizer, Figure 3, behind the fan blades or out in front in the air stream and a thermostatic valve in the compressed air line operated from a wet bulb, many of which are on the market, the wet bulb thermometer reading can be controlled for a fixed relative humidity condition. This makes a very inexpensive and a very workable apparatus arrangement for the purpose.

(To be Continued)

Letters to the Editor

Brooklyn, New York, March 7, 1932.

Editor, *Printing Equipment Engineer:*

When I saw Mr. Sullivan's article and picture in the February issue, my mind reverted to the early days of offset printing and to one instance of its use which was at the time novel as well as unusual. There is a touch of humor, too.

In the early '90's window shades, having a dado on the lower end, began to appear and caught woman's fancy. They took well, until the momentous question arose (you know how women are), should the dado be to the room or the window? And this got the shade-makers guessing. However, the Campbell Co. was making, at the time, a flat-bed lithographing press having an oscillating impression cylinder which made a revolution and a half in each direction. Being appealed to, it was found that the length of the shade was greater than the entire wrap around the cylinder, enough in fact to leave quite a portion on the feed board.

The thought, of course, was to print one side direct from the stone and back it by offset from the blanket on the cylinder, thus getting printing and register on both sides at once. Two men were up at opposite sides of the feed board. While an impression was being made on the blanket a shade was placed to the guides and taken by the grippers on the next forward turn of the cylinder, receiving an impression on its face and offset on the back, the second man keeping the shade taut and drawing it back on the board as the cylinder returned, he putting it on a side table. Meanwhile the feeder was placing a new shade. The speed was not great but the result answered milady's query, she could hang the shade without any thought as to the right side out or in. The shades sold well until from use they soiled at the bottom but they could not be turned end for end and the vogue passed.

Speaking, in later years, of the success of the venture, and of other early-day attempts, one of the firm said, "We were making history in those days but did not realize it," and this brings us to the closing thought. Ira Rubel did realize it. Although the "perfecting" of an unusual material in an unusual way antedated him (it was done on a flat-bed) he pioneered in the rotary.

Very truly yours,

WINFIELD S. HUSON.

A New ASSEMBLING TOOL for Keyboard Rolls

It's a simple, easy matter to apply new keyboard rolls with the new Linotype Rubber Roll Assembling Tool. Just have the shaft clean and start the roll on the shaft a half-inch or so. Then stand the shaft vertically on the floor or a work bench, slip the tool over the roll—and force the roll on the shaft with firm pressure. It's as easy as it looks.

Replace With Ceylon Rubber Rolls

The Ceylon Rubber Keyboard Roll is preferred for replacement by machinists in all sections of the country. Over 25,000 are in use now—although this improved roll was announced a few months ago!

The finest quality of pale Ceylon Crepe Gum goes into these rolls—an extremely resilient material that doesn't harden or become gummy, that is not affected by changing climate, that resists the cutting wear of keyboard cams. During the manufacturing process each Ceylon Rubber Roll gets special handling and each is individually tested and inspected. All raw material is carefully weighed and manipulated for uniform, proper composition.

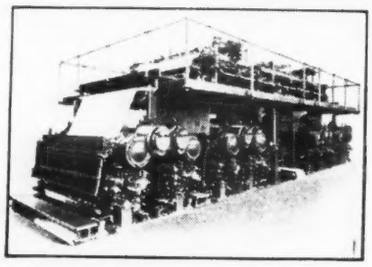
- **In stock at all agencies, order from nearest location: Rubber Roll Assembling Tool, H-2897, Price $1.40. Ceylon Rubber Rolls, H-2601, Price 85 cents each.**

MERGENTHALER LINOTYPE COMPANY

BROOKLYN, NEW YORK · SAN FRANCISCO · CHICAGO · NEW ORLEANS · CANADIAN LINOTYPE, LIMITED, TORONTO, CANADA

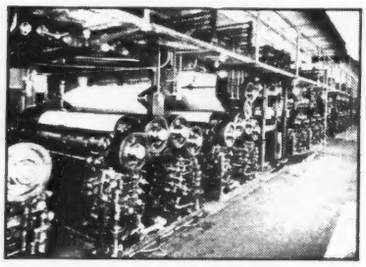
LINOTYPE Representatives in the Principal Cities of the World

Linotype Metroblack and Metrolite



L'intransigeant, Paris, France. 12 Wood Press Units, 100% equipped with Goodrich Rollers.

The St. Louis Globe-Democrat — 21 Duplex Super-Duty press units. Every roller a Goodrich Roller



San Francisco News. The line of Goss presses with every roller a Goodrich Roller.

99 *newspapers*

Better printing puts Goodrich Rollers on presses throughout the world . . .

SINCE this list appeared a year ago, 99 new names have been added. 99 additional newspapers are getting finer printing and are saving time and money.

Examine any one of these papers. Its print is clear and sharp. Its half tones are clean. No matter where the plant, results are the same. Climate and location have no effect upon Goodrich Rubber Rollers. So if you want to share these features put Goodrich Rollers on your presses. Write today for full particulars.

When you use Goodrich Rollers

Printing becomes much better, uniformly sharp and clean throughout the run • Production is improved • Washups are eliminated • Goodrich Rollers far outlast other rollers.

Every one of these newspapers uses Goodrich Rollers

ALABAMA
Birmingham Post

ARIZONA
Arizona Republican, Phoenix, Arizona

ARKANSAS
Arkansas Democrat, Little Rock, Ark.
Blytheville Courier News

CALIFORNIA
Compton News-Tribune
Glendale News-Press
Hollywood News
Long Beach Sun
Los Angeles Evening Express
Los Angeles Herald & Express
Los Angeles Times-Mirror
Los Angeles Examiner
Los Angeles Record
Oakland Tribune
San Bernardino Sun
San Diego Union Tribune
San Francisco Chronicle
San Francisco Examiner
San Francisco News
San Francisco Call-Bulletin

COLORADO
Denver Post
Rocky Mountain News (Denver)

CONNECTICUT
Bridgeport Times-Star
Bristol Press
Greenwich News & Graphic
Hartford Courant

CONNECTICUT (*Cont'd*)
Hartford Times
New Haven Register
New London Day
Stamford Advocate
Torrington Register
Waterbury Republican
Waterbury American

DELAWARE
Wilmington Eve. Jrl-Morn. News

WASHINGTON, D. C.
Labor, Washington, D. C.
Washington Daily News
Washington Times and Herald
Washington Post
Washington Star
United States Daily

FLORIDA
Gainesville Sun, Gainesville
Florida Times-Union, Jacksonville
Jacksonville Journal
Miami Herald
Miami News
Pensacola News & Journal
Tampa Tribune

FLORIDA (*Continued*)
Palm Beach Post (West Palm Beach)
St. Augustine Record
St. Petersburg Times

GEORGIA
Atlanta Constitution
Georgian-American(Atlanta)
Atlanta Journal
Columbus Ledger
Savannah News
Savannah Press

ILLINOIS
Aurora Beacon-News
Bloomington Pantagraph
Centralia Sentinel
Chicago Daily News
Chicago Herald & Examiner
Chicago Tribune
Danville Commercial-News
Decatur Daily Review
Galesburg Register Mail
Illinois State Journal, Springfield
Moline Dispatch
Peoria Journal
Peoria Star
Rockford Morning Star
Rockford Star-Register-Republic

INDIANA
Elkhart Truth
Evansville Press
Frankfort Morning Times
Indianapolis News
Indianapolis Star
Indianapolis Times
Marion Chronicle
Muncie Star

IOWA
Cedar Rapids Gazette
Des Moines Register & Tribune
Clinton Herald
Davenport Times
Iowa City Press Citizen

IOWA (*Continued*)
Marshalltown Times-Republican
Sioux City Tribune
Sioux City Journal
Waterloo Courier

KANSAS
Salina Journal
Topeka State Journal
Wichita Beacon

KENTUCKY
Louisville Courier-Journal

LOUISIANA
Monroe News-Star
New Orleans Item-Tribune
New Orleans Times-Picayune

MAINE
Bangor News
Portland News
Portland Press Herald
Portland Express

MARYLAND
Baltimore Sun
Baltimore American & News
Hagerstown Mail
News & Post, Frederick

MASSACHUSETTS
Boston Daily Record
Boston News Bureau
Boston Shopping News
Boston Sunday Advertiser
Boston American
Christian Science Monitor
Boston Herald & Traveler
Boston Pilot
Boston Post
Boston Transcript
Brockton Enterprise
Fall River Herald-News
Greenfield Recorder
Haverhill Gazette
Holyoke Transcript & Telegram

MASSACHUSETTS (*Continued*)
Lawrence Eagle & Tribune
Lynn Item, Lynn
New Bedford Standard-Mercury
North Adams Transcript
Pittsfield Eagle
Springfield Union
Springfield Republican
Daily News
Springfield Shopping News
Waltham News-Tribune
Worcester Post
Worcester Telegram-Gazette

MICHIGAN
Benton Harbor News-Palladium
Detroit Free Press
Detroit News
Detroit Polish Daily News
Detroit Times
Jackson Citizen Patriot
Mt. Pleasant Times
Niles Daily Star
Saginaw Daily News

MINNESOTA
Duluth Herald News-Tribune
Minneapolis Daily Star
Minneapolis Journal
Minneapolis Tribune
St. Cloud Daily Times
St. Paul Dispatch

MISSISSIPPI
Natchez Democrat

MISSOURI
Kansas City Journal-Post
Kansas City Star
Springfield Press
St. Louis Globe-Democrat
St. Louis Post-Dispatch
St. Louis Star

Niles & Nelson. Inc. *Exclusive distributors*
75 West St., New York . . . 400 W. Madison St., Chicago, Ill.

Goodrich *Printer*

...oined the list this year—

NEBRASKA
...oln Star
...oln State Journal-Star
...ha Bee
...ha World Herald

NEW JERSEY
...tic City Press-Union
...abeth Journal
...y Observer (Hoboken)
...tclair Times
...ark Ledger
...ark News
...ark Star-Eagle
...ark Sunday Call
...rson Morning Call
...rson News
...ton State Gazette
...ton Times

NEW YORK
...ondack Daily Enterprise (...aranac Lake)
...ny Telegram
...ny Times-Union
...terdam Recorder, ...sterdam
...on News
...hamton Sun
...hamton Press
...klyn Eagle
...klyn Times
...alo Courier-Express
...alo News
...alo Times
...ing Leader
...ara Star Gazette
...hing Journal
...ell Tribune-Times
...ca Journal-News
...estown Journal
...estown Freeman
...dletown Times Herald
... Vernon Argus
...burgh News
...burgh Beacon News
... Rochelle Standard Star
... York City—
...American
...Daily News
...Graphic
...Herald-Tribune
...Home News, Bronx
...Jewish Daily Forward
...Jewish Day
...Journal
...Journal of Commerce
...Mirror
...Post
...Sun
...Times
...Wall Street Journal
...World-Telegram
...ng Island Daily Star
...agara Falls Gazette
...rth Tonawanda News
...wego Palladium Times
...kskill Union
...ttsburg Republican
...ghkeepsie Star & ...nterprise
...eens County News, Jamaica, L. I.
...chester Democrat & Chronicle
...chester Journal-American
...chester Times-Union
...atoga Springs Saratogian
...ten Island Advance
...nectady Gazette
...acuse Herald
...acuse Journal and Sunday American
...y Record
...ca Observer Dispatch
...ca Press
...ite Plains Republican
...kers Herald Statesman

NORTH CAROLINA
...eville Citizen
...arlotte Observer
...rham Herald
...ensboro News
...stonia Gazette

NORTH CAROLINA (*Continued*)
Raleigh News & Observer
Raleigh Times
Rocky Mount Telegram
Wadesboro Messenger & Intelligencer
Winston-Salem Journal & Sentinel

NORTH DAKOTA
Fargo Forum

OHIO
Akron Beacon Journal
Akron Times-Press
Alliance Review
Athens Messenger
Bellefontaine Examiner
Canton Repository
Cincinnati Enquirer
Cleveland News
Cleveland Shopping News
Cleveland Plain Dealer
Cleveland Press
Columbus Citizen
Columbus Dispatch
Columbus Ohio State Journal
Coshocton Tribune & Times-Age
Dayton Daily News
Dayton Herald-Journal
Lancaster Eagle
Lorain Journal
Massillon Independent
Mansfield Journal
Mansfield News
Newark Advocate
New Philadelphia Times
Ohio State Journal, Columbus
Salem News
Sandusky Register Star-Journal
Toledo Blade
Warren Tribune
Youngstown Vindicator

OKLAHOMA
Bartlesville Enterprise
Duncan Daily Banner
Muskogee Phoenix Times Democrat
Oklahoma City Oklahoman
Tulsa Tribune
Tulsa World

OREGON
Portland Journal
Portland Oregonian

PENNSYLVANIA
Allentown Chronicle & News
Altoona Mirror
Altoona Tribune
Ashland News
Bloomsburg Morning Press
Chester Times
Easton Daily Express
Harrisburg News-Patriot
Harrisburg Telegraph
Homestead Messenger
Johnstown Democrat
Johnstown Tribune
Lancaster New Era
Lewistown Sentinel
Middletown Journal
Monongahela Republican
Morristown Herald
Oil City Derrick
Philadelphia Inquirer
Philadelphia News
Philadelphia Public Ledger
Philadelphia Record
Pittsburgh Gazette Times
Pittsburgh Press
Pittsburgh Sun-Telegraph
Pottstown News
Reading Times
Sayre Evening Times
Scranton Republican
Scranton Scrantonian
Scranton Times
Shamokin Daily News
Tyrone Herald
Wilkes-Barre Times-Leader

PENNSYLVANIA (*Cont'd*)
Williamsport Grit
Williamsport Sun-Gazette
York Dispatch

RHODE ISLAND
Pawtucket Times
Providence Journal Bulletin
Providence News-Tribune
Woonsocket Call

SOUTH CAROLINA
Anderson Independent
Charleston News & Courier
Charleston Post
Columbia State
Greenville News-Piedmont
Spartanburg Herald-Journal

SOUTH DAKOTA
Sioux Falls Argus-Leader

TENNESSEE
Chattanooga News
Chattanooga Times
Knoxville Journal
Memphis Press Scimitar
Nashville Banner
Nashville Tennessean

TEXAS
Dallas Dispatch
Dallas News & Journal
Dallas Times Herald
Houston Chronicle
Houston Post-Dispatch
Houston Press
San Antonio Express
Sherman Democrat
Waco News-Tribune Times-Herald

UTAH
Salt Lake City Tribune & Telegram

VERMONT
Burlington Free Press

VIRGINIA
Clifton Forge Review
Covington Virginian
Free Lance Star, Fredericksburg
Lynchburg News & Advance
Norfolk Ledger-Dispatch
Progress Index, Petersburg
Richmond News Leader
Richmond Times-Dispatch
Roanoke World News and Times

WASHINGTON
Seattle Times
Seattle Post-Intelligencer
Spokesman Review, Spokane
Tacoma Tribune

WEST VIRGINIA
Charleston Gazette
Clarksburg Exponent-Telegram
Huntington Herald Dispatch
Morgantown Dominion-News & Post
Parkersburg Sentinel

WISCONSIN
Capitol-Times (Madison)
Green Bay Press-Gazette
Manitowoc Herald News
Milwaukee Journal
Milwaukee Sentinel News
Sheboygan Press
Superior Evening Telegram
Two Rivers Reporter
Wisconsin State Journal (Madison)

WYOMING
Cheyenne Tribune-Leader

CANADA
Border Cities Star (Windsor, Ontario)
Calgary Herald, Calgary
Halifax Herald, Nova Scotia
Hamilton Spectator, Hamilton
Le Soleil, Quebec
London Free Press, Ontario
Montreal Star, Quebec
Ottawa Citizen, Ontario

CANADA (*Continued*)
St. John Telegraph Journal, New Brunswick
Toronto Globe, Ontario
Toronto Star, Ontario
Vancouver (B. C.) Daily Province
Vancouver Sun, Vancouver B. C.

AUSTRALIA
Melbourne Argus
Melbourne Herald & Weekly Times
Sydney Sun Newspapers

ARGENTINA
Critica, Buenos Aires
Jornada, Buenos Aires
La Prensa, Buenos Aires

CHILE
La Nacion, Santiago
El Mercurio, Santiago

CUBA
Diario de la Marina, Havana
El Mundo, Havana
La Semana, Havana
Heraldo de Cuba, Havana

DENMARK
Berlingske Tidende, Copenhagen

ENGLAND
London Daily Argus
London Daily Mail
London Daily Mirror
London Evening Standard

FRANCE
L'intransigeant, Paris

HAWAII
Honolulu Advertiser
Honolulu Star Bulletin

INDIA
Calcutta Statesman
Statesman, Delhi
The Hindu, Madras

JAMAICA
Kingston Daily Gleaner

MEXICO CITY
El Excelsior
El Nacional
El Universal
La Prensa

NORWAY
Aftenpoften, Oslo

PANAMA
Panama American

PERU
El Commercio, Lima

PORTO RICO
El Dia, Ponce

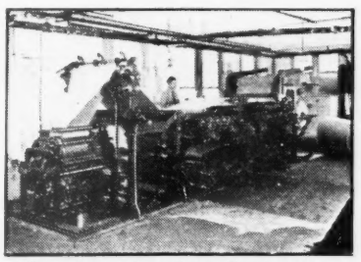
URUGUAY
El Dia, Montevideo

VENEZUELA
El Impulso, Caracas

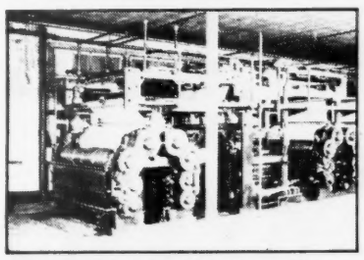
SPAIN
El Sol, Madrid
Prensa Espanola

JAPAN
Osaka Mainichi Shimbun
Tokyo Nichi Nichi
Tokyo Asahi Shimbun

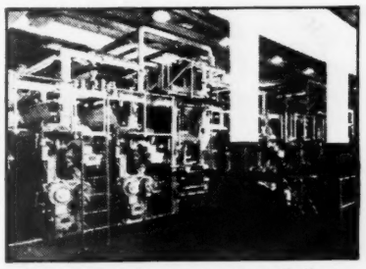
WALES
Cardiff Northcliffe Provincial



Shamokin, (Pa.) Daily News. Complete Goodrich Roller equipment on a 16-page Duplex Tubular press.



Saginaw, (Mich.) Daily News. Scott Double Sextuple press, completely equipped with Goodrich Rollers.



Chicago Daily News. Goodrich Rollers on 71 Hoe Super-production press units.

...Rollers

Offset Plate Graining

By Frank O. Sullivan

(Continued from March Issue)

The tracing is dampened with a moist sponge and the operation is repeated. If the transfer ink has been pressed from the paper to the plate, as may be determined by raising one corner, the paper should be peeled off after washing with plenty of water. The plate is then thoroughly washed with water so as to remove the solution of starch and glycerine left by the transfer paper. This same method applies to the pulling of proofs and transferring from the original plates such as stone engraved, hand drawn or photo-lith plates.

The plate is next coated with a thin solution of gum arabic made up as follows:

Gum Arabic, 8 oz.
Water, 8 oz.
Phosphoric Mixture, 1 oz.
Chromic Mixture, 1 oz.

After applying this, the plate is allowed to dry. It is then worked up with lithographic hand press ink, rubbing in the ink with a piece of cheese cloth, but at the same time sponging with the gum arabic solution. This is done by taking a piece of cheese cloth in one hand, dipped into the ink thinned out with turpentine, and a small sponge saturated with gum arabic solution in the other. The plate is rubbed with both simultaneously, with the gum solution under the ink at all times. The gum solution prevents the exposed surface of the plate from absorbing ink, but does not prevent such adherence to the impression left upon the plate by the transfer. The amount of rubbing required is a matter of judgment and experience, but it should be continued until all the work has a uniform appearance. After completing the operation, the gum solution is smoothed out over the plate and fanned dry. The plate is then placed in water and the dirty gum solution washed off. After washing, the plate is given a coating of clean gum solution and dried. This should not be so thick as to prevent the greasy lines from protruding above the film of gum. It is then gone over with a piece of cheese cloth, dipped in turpentine, until all the ink has left the lines and only a white impression of the work is left upon the plate. The wash-out solution consists of

Powdered Asphaltum, 1 lb.
Beeswax, 6 oz.
Tallow, 4 oz.
Oil of Lavender, ¾ oz.
Turpentine, 5 pts.

Heat asphaltum, beeswax and tallow and thoroughly dissolve; then add turpentine and other ingredients. This solution is applied by rubbing it into the work thoroughly with a piece of cheese cloth, but at the same time, removing all surplus solution. Finally, fan dry again and wash with sponge and water.

The plate is now gone over with a dampening cloth

(Continued on page 26)

SILVERTONE PROCESS CORPORATION

has the privilege to introduce the

SILVERTONE* PROCESS

This method of making duplicate printing plates combines the speed, facility and economy of the stereotyping process with the fine printing qualities of the good electrotype.

It is the result of over seven years of laboratory research and practical experiment by experts, and is now successfully established on a commercial scale.

Some of the foremost experts in the printing industry abroad have characterized it as the outstanding achievement in the art of stereotyping in the past fifty years.

The Silvertone Process enables the production of duplicate plates of finest printing quality at a substantial saving in cost. Silvertypes, as the plates cast from Silvertones are known, materially reduce make-ready on the press and in that way mean further saving of time and money.

We respectfully invite those interested in duplicate plate making to witness practical demonstrations of the Silvertone Process at our factory in Brooklyn, N. Y. Correspondence is invited so that we can arrange for convenient appointments for these demonstrations.

SILVERTONE PROCESS CORPORATION

342 Madison Avenue, New York, N. Y. Telephone, Murray Hill 2-5283

Subsidiary of the Certified Dry Mat Corporation

★"Silvertone" and "Silvertype" trademarks registered United States Patent Office. Patents granted and or pending in all countries.

★ LOCK-UP

★

Safety . . . Speed . . . Simplicity. Pressmen know that the Goss Plate Lock has these three important qualities.

Safety . . . The Goss Plate Lock eliminates the danger of plates working loose after they have been locked in position. It is impossible for the clips to recede from the plates without first inserting the wrench and giving it a half-turn. When the wrench has been inserted in the socket and only partially turned, it can not be removed until the plate has been completely locked. This eliminates the possibility of only half locking the plate.

Speed . . . The Goss Plate Lock is at least twice as fast as any other plate lock. It saves precious seconds in plating the starter. Almost instantaneously, two plates at a time are securely locked in place by an easy half-turn of a "bull-horn" wrench.

Simplicity . . . There is nothing "tricky" about the Goss Plate Lock. There are no complicated "gadgets" to go wrong and hold up starting the press. A single, simple turn of the wrench is all that's necessary.

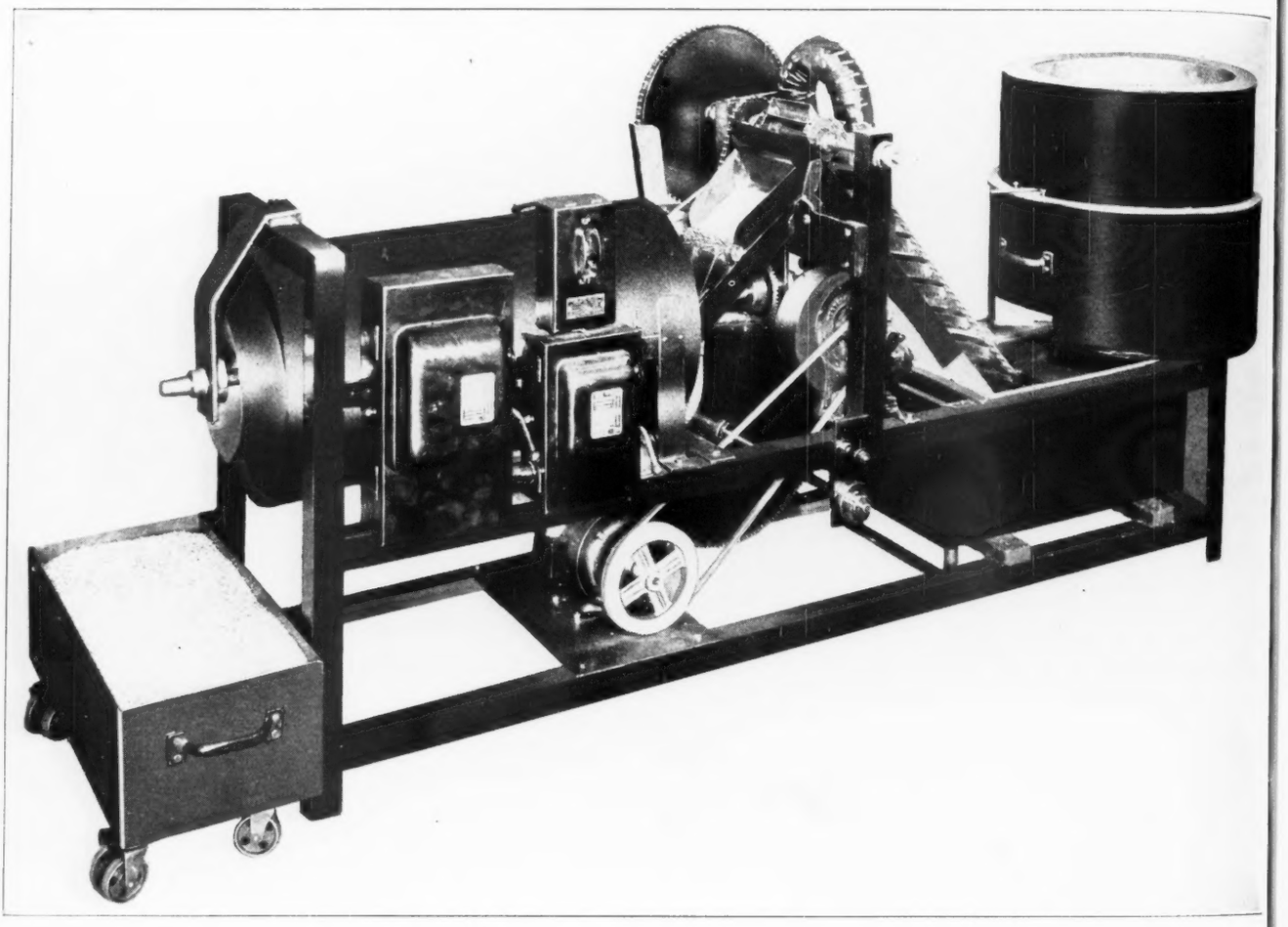
The Goss Plate Lock, a patented feature, is standard on all Goss High Speed and Heavy-Duty Presses.

GOSS

THE GOSS PRINTING PRESS COMPANY · CHICAGO, ILLINOIS
NEW YORK OFFICE: 220 EAST FORTY-SECOND ST. · SAN FRANCISCO OFFICE: 707 CALL BLDG.
THE GOSS PRINTING PRESS COMPANY OF ENGLAND, LTD. · LONDON

Loss By Dross Less Than ½ of 1%

a low temperature remelting and feeding system, for all line and Metalfeed, producing SHOT as a remelted product and feeding



- The BEARD AUTOMATIC METALMELT as illustrated above is capable of producing 700 pounds of SHOT per hour.

- The Metalmelt produces close grained, washed and electrically dried SHOT, which are fed back into the metal pots of line or material casting machines, by the Beard Metalfeed as illustrated on the opposite page. Eliminating the bulky, laborious ingot system of remelting and its many disadvantages.

- Metalmelt saves labor, saves current in line-casting machines, produces remelted metal with a close grain, improving faces of slugs and solidity of base. Practically eliminates dross losses and has many other economical advantages.

The Metalmelt and Metalfeed will be demonstrated daily in the plant of the

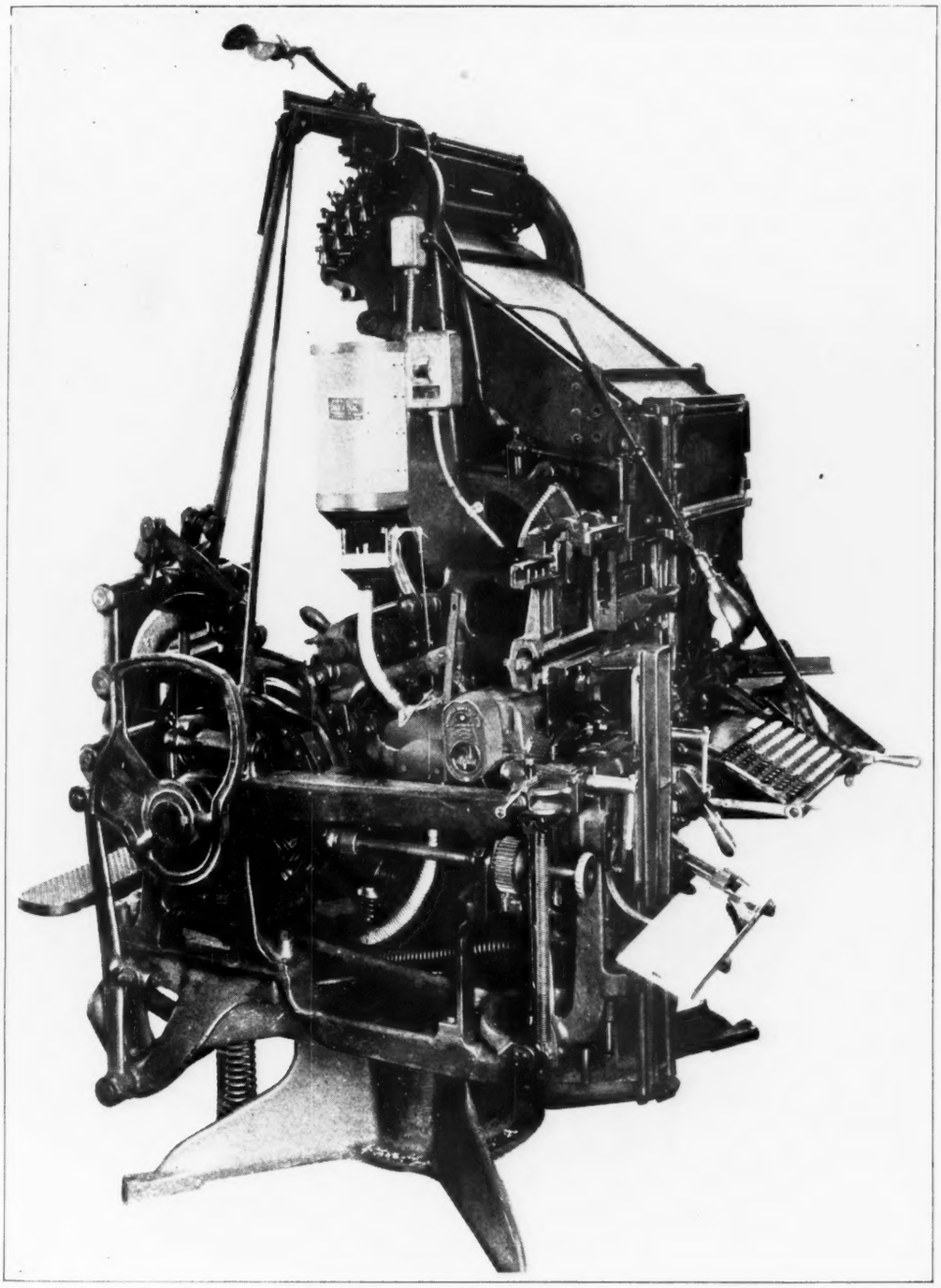
STA-HI NEWSPAPER SU

SALES AGENCY FOR BEARD AUTO

52 WEST 34th ST NEW

417 Oregonian Bldg.
Portland, Ore.

means that an entirely new automatic principle has been developed, material casting machines. The Beard Automatic Metalmelt and ng SHOT to metal pots on machines, as a metal supply.



The Beard Metalfeed attached to Linotype Machine. Note the neat out-of-the-way attachment holding SHOT sufficient for an ordinary eight-hour shift with one filling.

of the New York News, during the Publishers' Convention, April 25-30

SUPPLY COMPANY, Inc.

AUTOMATIC METALFEED CO.

NEW YORK CITY

703 Bendix Bldg.
Los Angeles, Calif.

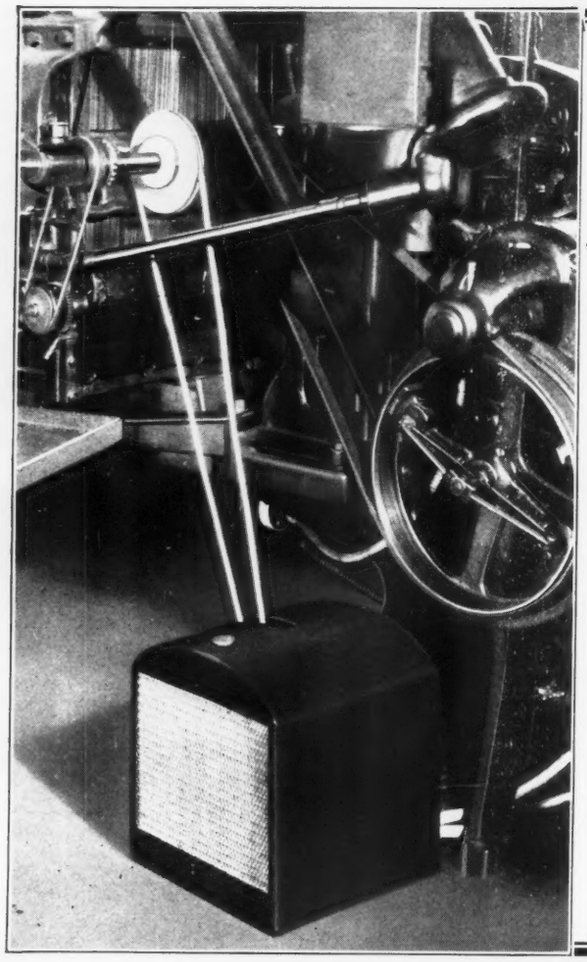
A. S. Harris — Engineer

A. F. Harris, inventor, pioneer press builder, and Chairman of the Board of Directors of the Harris-Seybold-Potter Company, which has the proud distinction of manufacturing presses for all three methods of putting ink on paper—offset, typographic, and gravure—is even more proud of his son A. S. Harris, Vice-President in charge of engineering for the company, than of the company he founded.

Stull Harris is descended from a long line of inventors and engineers. His grandfather on his father's side came from Birmingham, England, to install the first steel mills in the United States. These were at Covington, Kentucky, and Pittsburgh, Pennsylvania. Other forebears were distinguished in the making of precision instruments.

Stull Harris, like his father, is an inventor and engineer who has not only won for himself a name in press engineering and designing, but has upheld the traditions of a family which combines inventive genius with business acumen.

Stull Harris was born in 1891, and educated at Morristown Preparatory School, Morristown, New Jersey; Princeton University, and University of Virginia. In 1913 he went to work in his father's factory as a draftsman and in two years was made chief draftsman of the Company. In 1915 he became head tester on the erecting floor. In 1918 he was put in charge of the servicing of presses in the territory, and held this position for five years. In 1923 he was placed in charge of all factory designing, engineering, and machine testing. During these periods he accompanied his father on trips throughout



30 Gallons Per Hour

Of Water is approximately consumed by each Linotype, Monotype, Ludlow and Elrod, as well as the expense and inconvenience of the liming of molds, plumbing bills and placement of machines where water is available.

The **MONOAQUA COOLER** can be installed in ten minutes, requiring only three quarts of distilled water, which is circulated by a gear pump and cooled by means of a fan-cooled radiator

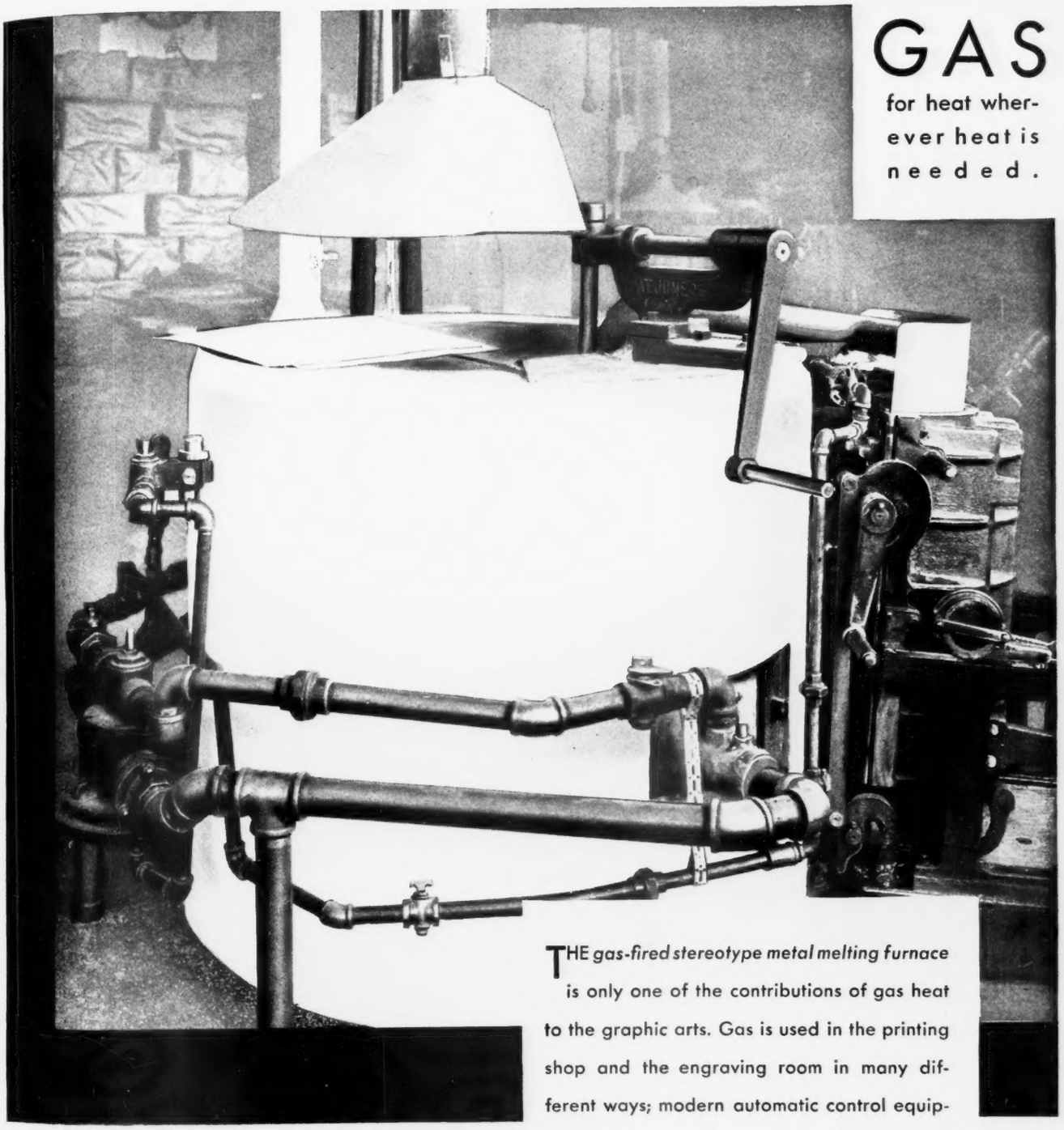
The **MONOAQUA COOLER**, requires only one square foot of space, constructed of the very best material, giving years of service and will pay for itself in a short time by increasing production, saving of water and the expense and delay of having the lime removed from the molds.

The Model A Water Cooler for Linotypes is driven by a split pulley as illustrated; Monotypes and Ludlows direct from a special motor pulley. Model B Cooler for Elrods is equipped with a 1 6 h. p. electric motor, requiring current equivalent to a 40-watt light bulb.

For further information, send for circular. Prices for Water Cooler complete, ready for installation—

Model A—for Linotypes, Monotypes and Ludlows, $50.00
Model B—(motor driven) for Elrod $70.00

DIXON COMPANY
312 EAST OHIO STREET
INDIANAPOLIS - - INDIANA



GAS

for heat wherever heat is needed.

THE *gas-fired stereotype metal melting furnace* is only one of the contributions of gas heat to the graphic arts. Gas is used in the printing shop and the engraving room in many different ways; modern automatic control equipment, together with this modern fuel, makes a combination indispensable to those who work with ink and paper. The magazine "Industrial Gas" is a veritable textbook on the myriad uses of gas for industrial purposes. Send for a free copy of it.

AMERICAN *Gas* ASSOCIATION

420 Lexington Avenue
New York

Wood Searches and Re-Searches for Better Results

DRY mat problems have many causes not all of which can be discovered in a minute. If it were otherwise, dry mat manufacture would be simple and complete satisfaction assured to every newspaper plant — at the outset — under all conditions.

Because we recognize our responsibility in this phase of newspaper production, we experiment in our own Stereo Room and become better qualified to work with you in your plant to find the "unknown."

There is no obligation if you ask us to put our time on your difficulties.

WOOD

FLONG CORPORATION
HOOSICK FALLS, N.Y.

the country studying the presses in actual operation. For many years it has been the policy of A. F. Harris to personally install the first presses of any new design. This work has now become the duty of the son.

In 1927, Stull Harris was made Vice President of the Company, in charge of Engineering, in which capacity he has charge of engineering, designing, testing, installation, inspection, and servicing.

Associated with A. F. Harris and A. S. Harris in the Harris-Seybold-Potter Company are R. V. Mitchell, President; T. R. Jones, Vice President and General Manager; H. A. Porter, Vice President in Charge of Sales; and C. G. Pritchard, Secretary and Treasurer.

Offset Plate Graining

(Continued from page 20)

and rolled up with lithographic ink, using a hand roller. It must be kept moist during the rolling up to prevent the adherence of ink upon parts of the plate other than the image. The theory of this is as follows: The lines on the plate are greasy, so that water will not adhere to them. Since the ink is also greasy, it will not adhere to the moistened surface of the plate, but it will adhere to the greasy lines, a quality which is to be desired.

(To be Continued)

Managing the Monotype Department

(Continued from page 11)

It is surprising the way an office can be arranged to take care of this growth by the condensing of storage systems and type cases and by occasionally weeding out older faces.

Such faces as Goudy, Cloister, Garamont*, Cloister, Ultra Bodoni, Greco Bold, Sans Serif in the Mid, Light and Bold and many others have been added, together with a variety of Swash Letters and Modernistic ornaments—all worked in with the one exception noted without any additional cost of production.

So far as maintenance is concerned, composing room executives should operate on the idea that a given volume of advertising can be set from a large variety of type faces quite as well as from a restricted number of faces. There is no material difference in the cost of production or maintenance apart from the cost of matrices. The vital thing is to impress the monotype department that in the new order of things it must organize itself under a system that must be flexible and ready for quick changes.

*Monotype spelling.—Ed.

Linotype News Editor Talks

John E. Allen, editor of *The Linotype News*, spoke on "How Does Your Publication Look?" at the eighth annual convention of the Columbia Scholastic Press Association, at Columbia University, Friday afternoon, March 11.

His talk was illustrated with many photographic enlargements of newspaper pages.

Offices in Principal Cities

IDEAL ROLLER & MANUFACTURING CO.

CHICAGO · · · NEW YORK

ECONOMY IN PRODUCTION COSTS
THE BASIS OF PRINTING PROFIT

ECONOMY

YOUR investment in presses and in general plant equipment is great! Your cost of rollers, by comparison, is almost nil, and yet the continuous operation of your pressroom is largely dependent on your choice of rollers.

Consider what it costs to shut down your presses while you reset a lot of unserviceable, heat-swollen rollers or change some that have melted or dried out and cracked and are spoiling your job or failing to work properly. Even if you could get them for nothing, you couldn't afford to use them! If the finest rollers cost twice as much, they would still be the cheapest, because they provide *continuous, economical press operation!*

How are you to obtain the best results at the lowest cost? The answer is easy—call a roller specialist!

And while you are about it get a man who knows—don't just ring for the nearest salesman. Consult a firm whose knowledge embraces all types of rollers—who can study your plant, your presses, inks, papers, humidity and temperature conditions, and who can supply rollers which will prove most economical to adequately meet *all* of your requirements.

IDEAL

SALES OFFICES

CHICAGO
lephone, Lawndale 1995
512 West 24th Street

CLEVELAND
Telephone, Main 4353
1374 East 12th Street

NEW YORK
Long Island City
Telephone, Stillwell 4-4387
22nd Street and 39th Avenue

BOSTON
Telephone, Hubbard 6840
470 Atlantic Avenue

CINCINNATI
Telephone, Main 7
519 Main Stre

DETROIT
Telephones, Randolph 7818-7819
222 West Larned Street

MILWAUKEE
Telephone, Broadway 2596
324 East Wisconsin Avenue

PHILADELPHIA
Telephone, Market 4096
521 Vine Street

ST. LOUIS
Telephone, Main 4056
411 North Tenth Street

e reverse side

Relation of Press Speeds to Production

(Continued from page 9)

There are, however, many pressmen who are not entirely sold upon the efficiency of the rubber roller, and in this regard it might be well to state that even though the manufacturers of rubber rollers maintain that a rubber roller will stay set in position once it has been adjusted, the practical finding is that it is not so, for rubber rollers must be more carefully watched for adjustments than composition rollers, and there is no doubt that there is room for improvement in the rubber-roller field.

LABOR

The employment of sufficient man-power to insure the maximum production on the high-speed type of press is of primary importance if satisfactory results are to be obtained. The heavier construction of the different parts of high-speed presses, even to the rollers, as well as doubling the amount of paper consumption, has increased the burden of labor on the press operatives 50 to 100 per cent.

Let me illustrate: A form roller on the old type of press weighed about 100 lb.; on the speed press these rollers weigh 200 lb. To set these rollers in place and the carrying of them to and from the press requires the use of more physical energy than the same operation on the obsolete old-style press.

The same rule applies to the other rollers in use, but in a lesser degree. This is but one phase of the increased physical requirements of high-speed operation. The supplying of paper to keep in continuous running necessitates the employment of help in proportion to the output of the press which is double that of those in use a few years ago. To keep pace with the speed and operation of the press a higher standard of labor has been developed.

It would be lacking in completeness to conclude this paper or any paper which has for its theme "the improved methods in the art of newspaper printing" without a due and proper regard for the type of men who are entrusted with and who maintain these improvements in their highest degree. I speak now of the pressroom worker, the newspaper pressman who is a skilled mechanic and whose senses of seeing, hearing, and feeling have been acutely attuned to his work in the pressroom. He is intimately concerned with the products and latest ideas of the press builder, the paper maker, the roller maker, the ink maker, the maker of impression packing material, the plate maker, etc. His technical knowledge of his trade must be coordinated and systematized in such a manner that the obstacles he meets in his every-day tasks will be overcome or eliminated with speed and dispatch.

The outstanding improvements in the past 30 years are the paper-reel system, which is a labor-saving device; the clip band, which greatly improves the plating of the press and has helped considerably in making quick starts; and the automatic felt blankets, which have been a great factor in the general operation of newspaper presses, particularly in the production and the lowering of the waste percentages. These three wonderful improvements were created in the minds of pressroom workers. Some of the notable improvements from the press builders are the unit-type press and many changes in the manner in which ink is applied.

I would not want you to believe that what I have had to say is of a pessimistic character, but I did want to point out to you that with the developments that have been made on high-speed production in the printing of our newspapers, we have carried on with a desire to take advantage of each and every feature that is of a labor or time-saving character, and we fully realize that in order to insure further developments we must keep abreast of the developments that have already ensued and do our best with them.

Wire Woven Asbestos Belts and Drum Covers for Cemer Scorchers

Plain Asbestos Cloth and Asbestos Paper for all Other Type of Scorchers

Maple Planer Blocks

Wood, Rubber and Raw-hide Mallets

Router Belts

Boston Herald Form-O-Scorch

LINOTYPE ASSEMBLER BELTS
For all models of Linotype and Intertype
Unconditionally guaranteed not to stretch in any climate

Non-Glazing CAM ROLLERS
for Linotype and Intertype Machines

American Publishers' Supply Company
P. O. Box 131, West Lynn, Mass.

New Catalogs, Books and Bulletins

Readers of PRINTING EQUIPMENT ENGINEER who are interested in securing any of the catalogs, books or bulletins listed below can do so by checking the literature desired. Mark carefully only that literature which you wish to receive. Fill out the coupon and send it to us. The literature will be forwarded without cost except where noted.

Book of Stock Colors—The Braden-Sutphin Ink Co. will be glad to forward a copy to any printer who would like to have it to order his colors from. Size ½ in. x 3 in. x 9 in. Shown in the book are standard colors carried in stock, some of the new shades of water colors, the new non-scratch black, poster colors, bond colors and cover inks. All other specialties pertaining to inks and their use are also carried.

Precision Lockup Adds to Profit—Broadside by the Printing Machinery Co., illustrating and describing specific plate-registering bases which should be employed for various kinds of work.

Amthor Operation Recorder—Bulletin No. 105 describes operation and construction of recorder which is used by the production manager to determine production costs on a printing unit, check observance of schedules, running speeds, down-time, etc.

Light on the Saw—One-color-and-black illustrated folder on Cost Cutter Saws demonstrating how these saws will save money in the composing room.

"Ace" Linecasting Machine Belts—Small folder describing endless cord-rubber construction of belts for assembler, distributor, keyboard and pi stacker drives.

Form Letters Printed on Any Printing Press—A folder demonstrating the advantages to be obtained by using the Form Letter Printer to reproduce exact facsimilies of typewritten letters on any standard printing press.

Have Faith, Go Forward, Build Right—A four-page folder issued under the signature of L. W. Claybourn, president of Claybourn Process Corporation. Well worth the reading by any printing executive.

The "Mick" Paper Driller—Folder describing and giving specifications of the "Mick" Paper Driller. A series of holes drilled by this machine are shown to demonstrate the range and quality of work.

Monotype Equipment Exchange Service—Folder by Newton Machine Co., listing Monotype matrices, supplies, etc. Parts wanted by customers are also listed.

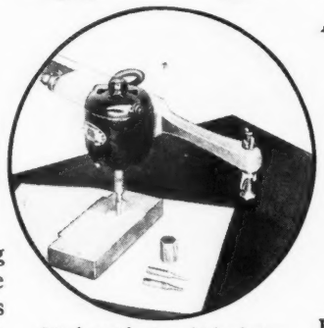
The Cushman Offset—A 16-page, illustrated booklet, 3⅝ in. by 6½ in., describing the Cushman offset motor for application to linotype and intertype machines and its ready accessibility for repairs.

Electric Welded Steel Chases—A 24-page, 4 in. by 8½ in. illustrated booklet describing the many kinds of steel chases made for various presses and the chases made for special purposes.

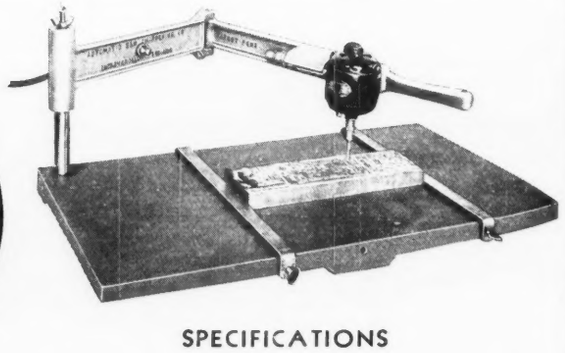
Vandercook Proof Presses—A series of three folders, each 9 in. by 11⅛ in. in size, illustrated, describing and giving specifications of a few of the proof presses made by Vandercook & Sons.

Scientific Production Control—Describes and illustrates in a booklet, 8 in. by 11 in., 18 pages, electric and mechani-

Here's What You Have Been Waiting For... A Router and Type-High Planer *for* $50



Attachment for type-high planing and routing to fine point



Every Newspaper and Printing Plant should have a portable router. This practical router is made on the same principle as the larger machines and will route stereotype, electrotype, linotype slugs, zinc, wood or linoleum, and has an attachment for type-high planing of stereotype casts and wood-mounted cuts.

Send your order in today for one of these Portable Routers. If you desire further information on this new Portable Router, please write.

SPECIFICATIONS

BED—Size, 25 x 15 inches; cast-iron, machined surface.

MOTOR—110-volt, Universal—either A.C. or D.C. 10,000 R.P.M. Fan cooled, General Electric make. Guaranteed for one year.

ARMS—Solid bronze to prevent breaking. Adjustable elbow with take-up for wear.

SWITCH—Conveniently located on arm, controlling motor and light.

Thumb-screw over hardened steel post controls depth of router bit.

WEIGHT—Approximately 80 pounds.

Machine complete with cord, motor, light fixture, bulb, router bits, type-high gauge and attachment for type-high planing.

AUTOMATIC SAW SHARPENING COMPANY

SHARPENERS OF PRINTERS' AND STEREOTYPERS' SAWS

312 East Ohio Street Indianapolis, Indiana

cal counters, electrical and mechanical switches, delayers and actuators for all machines, unit production metering devices, time totalizing counters, made by the Production Instrument Co.

Days to Remember—Small folder describing the benefits to be derived from the use of Nurex Tabbing Compound, which is non-inflammable, will not dry out and is always flexible.

Lyons Improved Assembler—Folder describing the Lyons Improved Assembler for application to Linotype machines, now available for Models 3, 5, 8, 14, single or double keyboard as well as 18, 19, 25, and 26 models.

It Is Saving Money for Them—It Will Save Money for You!—The Automatic Ejector Set, made by The Time Saving Device Co., is praised by users listed in a folder.

Printing Equipment Engineer,
1370 Ontario St., Cleveland, Ohio.

Gentlemen: Please send the literature checked above without obligation.

Name of Company _____

Attention of _____

Position _____

Street Address _____

City _____ State _____

High Cost of Obsolescent Equipment

(Continued from page 10)

grams. You know and I know that in the opening up of business you will have the advantage—the edge on competition. But what about those of you who have been improvident, who continue to put off the day of adequately re-equipping until too late? For your old equipment today, the market unquestionably is better than it will be in the future. Already in many industries there is a stiffening of commodity prices.

Obsolescence does not mean only equipment that is too old to run or to produce work. Obsolescence of press equipment is determined by inability to produce wanted printing of any kind in successful competition. We have "taken our own medicine" in the Harris-Seybold-Potter Company, and throughout the entire period of the last three years have continued without intermission on a development program. New machines are even better than the old. They will do better work. They will produce more in less time. We obsoleted hundreds of patterns and parts at the expense of tens of thousands of dollars to bring out new machines to meet every new marketing condition. Mark this, many of these presses we discontinued were far newer and more modern with greatly increased production than many of the machines found running in well-known plants today.

It is folly to blame the times when, with modernization of plants you have within you individually the power to profitably meet and work out of the situation. Face the facts now when so many factors are in your favor, and every reasonable argument urges your action. In your handling of these questions you determine your right of leadership. Through your modernization programs you both evaluate your own work and your plant.

You Too—Can Economize with

Burgess Chrome Mats

A Laboratory Product

●

The general order of today is to ECONOMIZE.

Burgess Chrome Mats can save a great majority of publishing plants thousands of dollars in ink, paper, press blankets, etc. and at the same time secure the utmost in printing.

Right now, this fact is being appreciated by our steadily growing list of customers.

Write us for details—or better yet, arrange for a practical demonstration by one of our representatives. It will cost you nothing and place you under no obligation.

●

BURGESS CELLULOSE COMPANY

Division of C. F. Burgess Laboratories, Inc.

Freeport, Illinois

Latest Printing Equipment Mechanisms

Late Development in Flatbed Web Perfecting Presses

A late development in flat-bed web presses is the new Goss Cox-O-Type newspaper press manufactured by the Goss Printing Press Company, 1535 South Paulina St., Chicago.

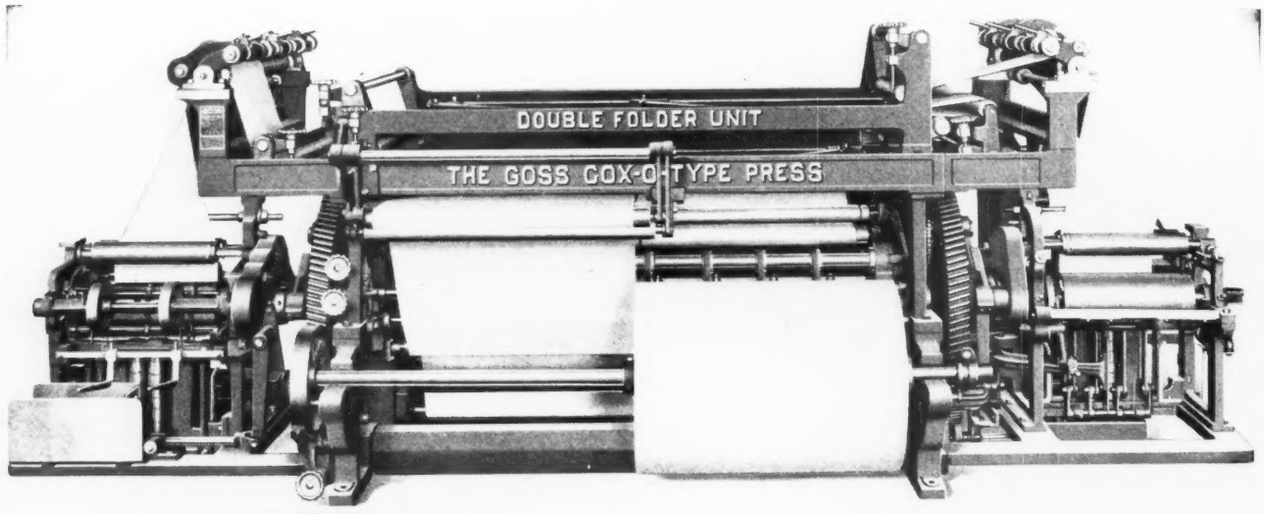
New outstanding features in presses of the flat-bed web type are:

Unit construction so that two eight-page presses may be connected in a manner that will deliver all products up to a 16-page newspaper in one section or *book fold*.

A tapeless folder so all products can be delivered without the use of tapes.

A single unit press that can have two folders if desired. This new feature will permit the delivery of two different four-page newspapers or two eight-page tabloid publications at one time and places the owner of a Goss Cox-O-Type in a position to compete with bill printers who make a specialty of page and double-spread bills.

To the double folder unit can be added the new color attachment that will increase the money-making value of a flat-bed web press. Double products and double color means increased profit when a single operation is all that is necessary.



SATISFIED WITH CERTIFIED

CERTIFIED DRY MATS

Ace Quality is Appreciated

In spite of the extraordinary urge to economize under present conditions, publishers are judiciously wary of being penny wise and pound foolish.

The response to the Certified Ace* has shown this and proves that quality is still appreciated. Price after all is only one factor and low price is not necessarily real economy.

The Ace* we sincerely believe is the world's most expensive dry mat to make, and yet it does not cost any more. Considering its fine working qualities and the printing it makes possible, we are confident that you, too, would find the Ace* the most economical mat to use.

We respectfully suggest that you put the Ace* to work in your foundry under your own working conditions and be your own judge.

The Certified Ace* is at your service.

CERTIFIED DRY MAT CORPORATION

338 MADISON AVENUE . . . . NEW YORK, N. Y.

For dependable stereotyping --- use Certified Dry Mats

Made in U. S. A.

* Trade-mark registered United States Patent Office

The Cox-O-Type has double ink distribution and paper tension along with other improved devices, all new to the flat-bed web perfecting press.

Linolite Light-Weight Magazines

Linotype Linolite magazines, twenty-two pounds lighter than brass magazines, are announced by the Mergenthaler Linotype Company in the March issue of *The Linotype News*.

"Linolite," runs the Mergenthaler announcement, "is a special alloy as durable and as satisfactory as brass in every respect, with the further advantage of extreme lightness for ease of handling.

"The ninety-channel Linolite magazine is twenty-two pounds lighter than the same type brass magazine—yet costs no more. The Linolite magazine, with a full font of 1,500 matrices, weighs no more than the empty brass magazine."

"Libite"—Type Wash and Ink Remover

Officials of Perfection Type, Inc., 141 East Fifth St., St. Paul, Minn., announce that after much research and experimentation they have perfected a new and distinctly different type wash and ink remover under the trade name of "Libite," and claim for it certain qualities not found in ordinary compounds of this kind. Libite accomplishes the desired results in a type wash and ink remover in a minimum of time, amount required and with the least effort.

It is claimed that Libite has unexcelled evaporating qualities which do not in any way sacrifice its efficiency nor does it leave a semblance of sediment on the surface cleaned. The most obstinate cases of dried inks or varnishes on type, plates, ink fountains or press parts are instantly overcome by means of this solvent with safety. Libite will not in any way affect rollers or press parts, it is not injurious to the hands nor will it leave a stain on paper of any kind.

Libite is put up in quart, gallon, 5-gallon and 30-gallon drums. A generous sample is offered for testing purposes. For sample can or any information regarding Libite, address the manufacturer.

The Production Meter

The Production Meter, made by the Production Instrument Co., 1315 So. Wabash Ave., Chicago, Ill., is an instrument which mechanically records on an electrically-driven chart a graphic line indicating the operation of industrial producing machinery and may be used on printing presses, stitchers, binders, ruling machines, etc. One installation is primarily intended to obviate disputes over deduction of down-time or claiming of down-time on linotypes by the operators. It will indicate constantly, every minute of the day, what machines are running, giving a report on the performance of each machine.

The graphic chart is driven by a synchronous motor which insures exact time accuracy. Resting against the face of the chart are stationary, capillary, platinum iridium-tipped glass recording pens (one for each unit).

"It May Take Some Arguing to Convince the Boss . . .

—that you should switch to Imperial Type Metal," says the head stereotyper to his friend on another paper.

"I remember when the front office used to buy our metal on a cost per pound basis. The lower they could get the price the smarter they thought they were. One day I got up my dander, I walked right in to the boss and told him that as long as this outfit insisted on buying just any kind of type metal so long as it was cheap, they could not expect me to make a good showing in the Stereotype Department."

"I remember he said to me 'Well, if you think you could do better, suppose you buy the metal and we will see how our costs run at the end of the year.' That was exactly what I wanted him to say and I chose Imperial Type Metal serviced by the Plus Plan. The boss was a good sport and came around at the end of the year and said, 'Jim, you win. From now on you handle this metal business.' . . . My advice to you is to have it out with the boss and then

switch to

Imperial
METAL

THE IMPERIAL TYPE METAL CO.
Philadelphia · New York · Chicago · Los Angeles

Ace Endless Cord-Rubber
ROUND BELTS
For Linotypes and Intertypes

LAST MUCH LONGER DO NOT STRETCH
PROVIDE INCREASED TRACTION

Available for
Assembler Drive, Distributor, Keyboard, Pi-Stacker

Ace Matrix Delivery Belts
(OF CORD RUBBER CONSTRUCTION)

These Belts are made on the same principle as the Round Belting

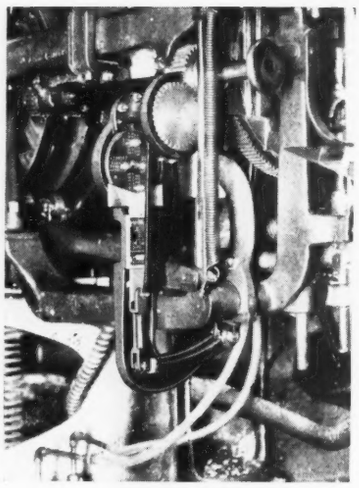
Linotype (up to 45") .. .85 Ea.
Linotype (longer sizes) $1.35 "
Intertype (all sizes) . . . .85 "

Both Round and Matrix Delivery Belts
Guaranteed for a minimum of a year's service.
Your Requirements Sent on 30-Day Approval

ACE BELTS REDUCE YOUR COST AND INCREASES THE EFFICIENCY OF YOUR TYPESETTING MACHINES!

Linotype Parts Corporation
New York
270 La Fayette Street
Kansas City
314 West 10th Street

The AUTOMATIC EJECTOR SET



Automatically Changes the LINOTYPE EJECTOR at the same time the operator changes molds

WRITE FOR ADDITIONAL INFORMATION

The Time Saving Device Co., Inc.
599 Kenmore Ave., S.E., Warren, Ohio

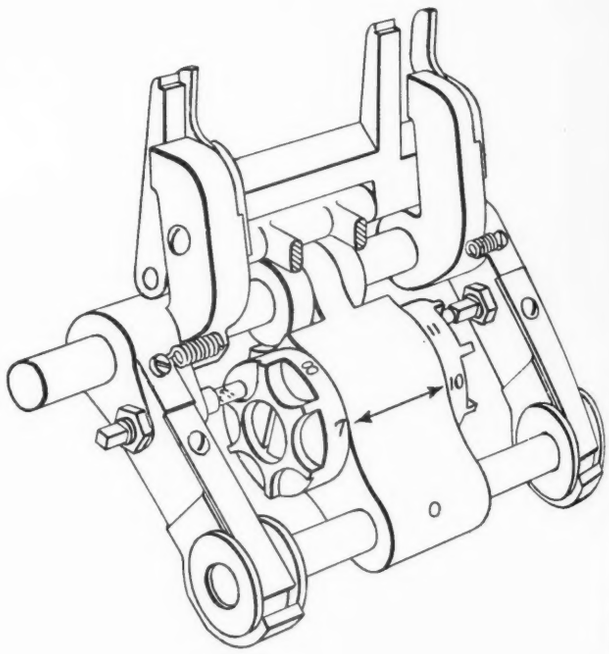
If any one machine is shut off, due to a time cycle in the manufacturing process, or stopped for a change or lack of material, the Production Meter records the change or idle time.

The Green Wizard Electric Counter, actuated by an electrical contact switch, gives a unit count and is installed and connected to operate in unison with the Production Meter.

Adjustable Font Selector Block for Intertype Mixer

A recent improvement in the font selector of the Intertype Model F Mixer is shown in the accompanying sketch.

The selector disks have a series of steps, any one of which can be quickly set in position to seat the stop pin. To change a setting it is only necessary to slide the bracket back so that



the stop pin clears the disk, then rotate one of the disks until the desired notch number appears opposite the double-pointed arrow shown in the drawing which indicates the constant setting mark.

The steps on the disk are enclosed to assure proper and positive seating of the stop pin.

This improvement will be especially convenient in plants where it is desired to use a variety of notches in order to keep fonts from becoming mixed.

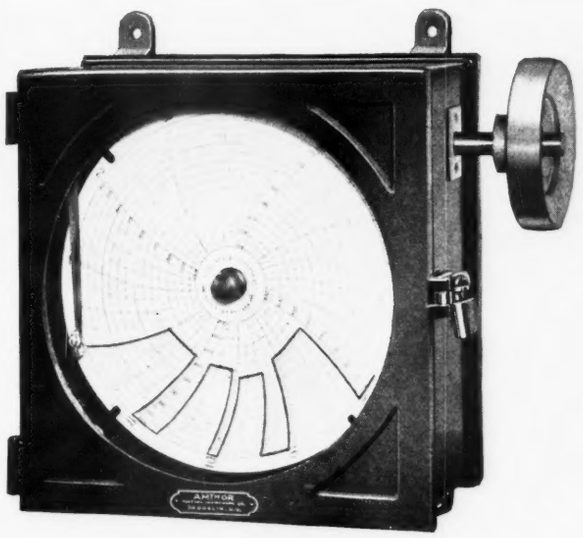
Amthor Operation Recorder

The Amthor Operation Recorder, made by the Amthor Testing Instrument Co., Inc., 309 Johnson St., Brooklyn, N. Y., can be applied to practically any type of rotary press machinery so the production manager can obtain recordings of press speed and operation, or detect operating irregularities due to undetermined causes such as faulty driving arrangements and overload with power and speed loss. The chart record produced can also be used to determine job costs, as a reference regarding operation on repeat jobs and to lay out operating schedules according to the specific plant conditions involved. The fact that all these data are automatically detailed on one chart, made right from the press itself, enables the production manager to increase operating efficiency, lower operating costs and obtain observance of schedules.

The charts are graduated to record either the press speed

in "revolutions per minute," or directly in terms of the specific type of work of the press as in "impressions per hour," "papers per hour," "feet per minute" of paper, etc.

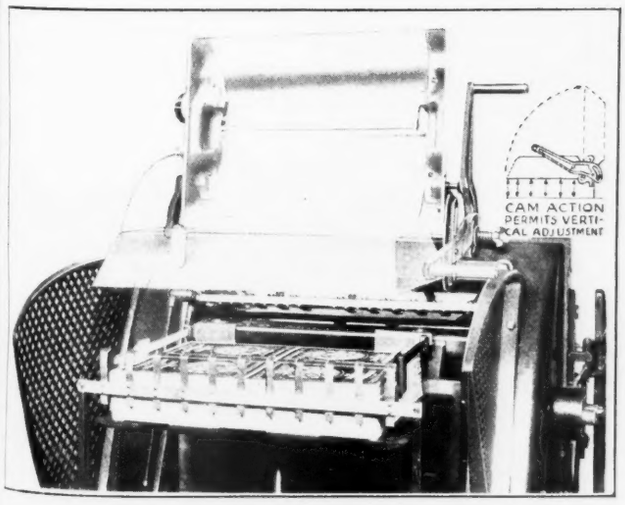
The Recorder movement is based on the centrifugal principle which affords a powerful and uniform action. Wear is eliminated by precision ball bearings which need lubrication



at yearly intervals. The few parts of the moving mechanism are compactly assembled in a metal case with glass cover which is moisture, dust and fool-proof. The governor movement is independent of temperature changes or magnetic influence and includes a special damping device to take up any undue vibration or shock which the press may impart.

Globar Acme Electric Reflecting Heater

The Acme Reflecting Electric Heater, made by The Acme Printing Appliance Co., 331-333 South Clinton St., Chicago, Ill., has been designed for application to various kinds of presses, including those with automatic feeders.



It is claimed that the heater will prevent offset, static, creeping and crystalization of ink. Short runs may be backed up immediately without smearing or spoilage.

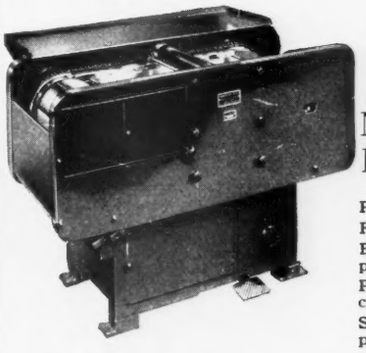
As shown in the illustration, the heat is adjusted to the sheet by means of the cam-action handle.

The Acme Heater is made of aluminum and is of ample size to heat the largest sheet the press will take. A chromium-plated reflector reflects the heat downwardly. A Globar non-

40 Proofs a Minute

WITH
Vandercook No. 23

New Electric Proof Press!

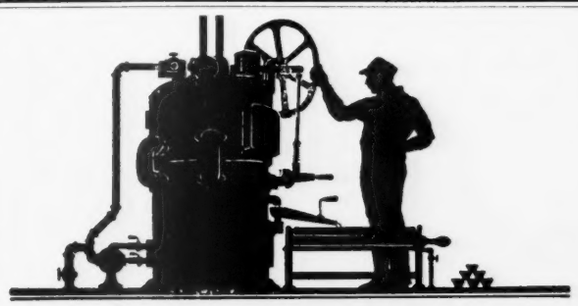


Printing surface—15x28.
Floor space—25x53.
Bearings—43 ball bearings packed in grease.
Practically eliminates lubrication service.
Speed—40 or more proofs per minute.

Imagine 40 proofs or more to the minute and good ones, too, with this revolutionary proof press. Newspaper men, publishers and printers will readily appreciate the extra service and speed of the remarkable new Vandercook No. 23 Electric Proof Press. Works simply and easily, doing the job of three or four ordinary proof presses. A touch of the toe starts, stops or continues to run. The ink distribution is perfect—the impression cylinder will accommodate large variations in galley thickness and form height.

SIMPLE OPERATION—The Inking System consists of a motor-driven drum 11" in diameter, rubber vibrafor and four rubber form rollers. The rubber rollers require no adjustments. Lifting the knob on front of press turns on electric motor and moves vibrator into contact with ink drum. Stepping on foot treadle starts impression cylinder and form rollers. When foot is removed from treadle the brake immediately stops the cylinder and rollers. ***Write for full information.***

Vandercook & Sons, Inc.
940 N. Kilpatrick Ave., Chicago, Ill.
VANDERCOOK — The original modern Proof Press



THE MONARCH
MONOMETER
A
PRINTERS' MELTING FURNACE

WITH
THERMOSTATIC CONTROL
OF TEMPERATURE.
ELECTRICITY, GAS, OR OIL
AS FUEL.
AUTOMATIC MIXING AND
STIRRING OF METAL.
DROSSLESS & FUMELESS.
MADE IN CAPACITIES
FROM 500 ~ 10,000 LBS.

WRITE FOR COMPLETE CATALOG P.E.E.

The Monarch Engineering & Mfg. Co.
701 - 702 American Bldg., Baltimore, Md., U. S. A.
Works, Curtis Bay, Md.

Linotype and Intertype Repair Service

Molds—side knives—back knives—1st elev. back jaws—spacebands—dist. box bars—2nd elev. bars—magazines—motors—dist. screws made like new—driving shafts bushed—general repairing of parts. Also make special Linotype and Intertype tools—Matrix ear file gauge $2.50—magazine expander $4.50—magazine broach $4.50—liner cutting gauge $25.00—fiber motor pinions for all makes of motors and special pinions made to order.

William Reid & Co. 537 S. La Salle St. Chicago · Illinois

MONOTYPE PARTS REBUILT
and
New Monotype Accessories
Prompt Service—Less Expensive—All Work Guaranteed
(Customers Everywhere—Send for Price List)
NEWTON MACHINE CO.
211 High Avenue Cleveland, Ohio

Why Overlook the Mechanical Executives?

A Message for Printing Equipment Manufacturers

Of the men who read this magazine are in a position to recommend, specify, and even purchase thousands of dollars' worth of printing equipment and supplies each year. This is an equipment magazine. Our readers are interested in the advertising of printing equipment. Reading your advertisement in this publication will tell them the salient facts about your equipment. It will help break the ice for your salesmen when they call on the mechanical executive. PRINTING EQUIPMENT ENGINEER is the only publication in the entire printing industry that reaches mechanical executives exclusively. The cost of advertising in PRINTING EQUIPMENT ENGINEER is moderate, the results more than compensate for the expenditure. Do not overlook telling your story to the mechanical executives. Let us send you complete information on PRINTING EQUIPMENT ENGINEER.

Printing Equipment Engineer
1370 Ontario Street Cleveland, Ohio

SAW-TRIMMERS "DE LUXE" "DO-MORE" "KALAMAZOO"
Routers, Stereotype Saws, Jig Saws
"BULLDOG" SAFETY CLAMPS AND DIRT-PROOF SPEED GAUGES FOR MILLER, ETC.
TWO RICHARDIZED MILLERS ON HAND
STEEL RULE DIES
J. A. RICHARDS CO. KALAMAZOO MICHIGAN

BACK COPIES of PRINTING EQUIPMENT ENGINEER

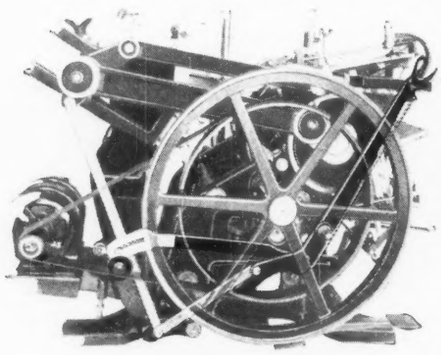
We have a few back copies of Printing Equipment Engineer for those who wish to complete their file. The copies available run from January, 1931, to April, 1932, with the exception of July, September, and January, 1932. Price per copy, 25c.

PRINTING EQUIPMENT ENGINEER
1370 ONTARIO STREET CLEVELAND, OHIO

metallic heating element, having high resistivity, emissivity, range of working temperature and large radiating surface is employed in the heater. It projects an infra-red ray of practically uniform intensity which penetrates and sets the ink film at once.

Acme Heaters are furnished for 55-110 V. or 220 V., either A. C. or D. C. Special voltages can be taken care of at small additional cost.

New Kluge Automatic with Throw-Off



Brantjen & Kluge, Inc., St. Paul, Minn., announce a new 12 x18 size automatic press in addition to the 10x 15 size which was put on the market last June.

The manufacturers claim this press has many distinctive features, such as an improved system of distribution, greater speed, impressional strength and advanced constructional methods.

The press has been given a wider leg spread, heavier side frames and base, placing the weight where it contributes most to positive rigidity. Balancing this, aluminum alloys have been used in constructing the reciprocating parts so as to assure stability and absence of vibration.

The pile jogger automatically lowers as it is filled and has a capacity of 12 in. of flat stock, and an improved type of suction fingers on the delivery arm are adjustable in any direction.

The new Kluge throw-off is designed to insure proper impression under all conditions. When it is applied, either automatically or by hand, it is securely locked at the exact point of stress, giving equal strength to all impressions, first and last. The attachment also shuts off the flow of ink at the fountain at the time it throws off the impression.

Announces Karnak Light

The Karnak family of flat-serif typefaces has just been completed in matrix form by the Ludlow Typograph Company, the design being offered in both Medium and Light versions in sizes from 10 point to 72 point, inclusive. The recent completion of Karnak Light, makes possible a combination of weights in display composition, which is a popular practice with typographers working in the modern style.

7000 Miles in 14 Minutes

This is a copy of the photo of Joseph F. Gillick, President of the American Type Founders Company, Jersey City, N. J., that was sent by Dr. J. O. Perrine, of the Research Department of the American Telephone & Telegraph Company, New York, by the telephotograph service of that company, over the wires to San Francisco. The photo was reproduced and then sent back to New York, a distance of about 7000 miles and was thrown on the screen at the banquet in the Hotel Astor, Monday night, March 14, 1932, of the Third Conference of the Technical Experts in the Printing Industry. Mr. Gillick was the speaker of the evening. The subject of his speech was "What Is Ahead of the Printing Industry."

TRUTH ABOUT ROLLERS IS BETTER THAN FICTION

Over a period of eighty-three years, we have been manufacturing Printers' and Lithographers' Rollers. We feel that with such an experience back of us, our statements regarding Rollers should be of value to the users of Rollers. What we wish to emphasize at this time is —

THERE IS NO TROUBLE-FREE ROLLER

Such a claim is an exaggeration. Every type of Roller has its limitations:

Composition Rollers shrink	**Oil Rollers chip**
Rubber Rollers swell	**Leather Rollers stretch**

Up to the present time, the Roller that still gives the best, all-around satisfaction, is the regular composition Roller. It is the Roller that is used today by the largest producers of fine halftone and process color printing. It can be made as soft as the most exacting color printer requires, or non-meltable to suit the requirements of users of high speed presses. *It can be used in any position on the press.* The cost of this Roller in comparison to the service it gives, and the class of work it turns out, is negligible.

All this is said without prejudice to any other kind of Roller. In proof of this we are listing the Rollers we manufacture. You will find we have covered the field completely.

In addition to being roller experts, we have in our organization men who have been pressroom executives which places us in position to analyze requirements of the printing and lithographic trade from a pressroom angle.

Consult us at any time. We are glad to be of service.

MACHINE-CAST PRINTERS' ROLLERS
BRO
ESTABLISHED 1849

FIBROUS are seasonal Composition Rollers, have a very pliable surface, and will produce the highest quality of fine halftone and process color work. They can be made to any grade of firmness, from the softest to the hardest.

DUPLEX are non-meltable Composition Rollers. They have a pliable surface, will do the same class of work as the seasonal Composition Roller and are especially adapted for all grades of presswork on high speed presses. They can be used in any position on the press.

STAR are Rubber Rollers for use on newspaper presses and water color work. They are long hard service Rollers, and will grind easily.

CRESCENT are Lithograph Rollers that have a fine surface for distributing ink, will wash up easily and will not crack or chip. *In addition to these we manufacture smooth and grain Leather Rollers, Molleton and Moleskin Rollers and Plush Rollers.*

Member

N.A.P.R.M.

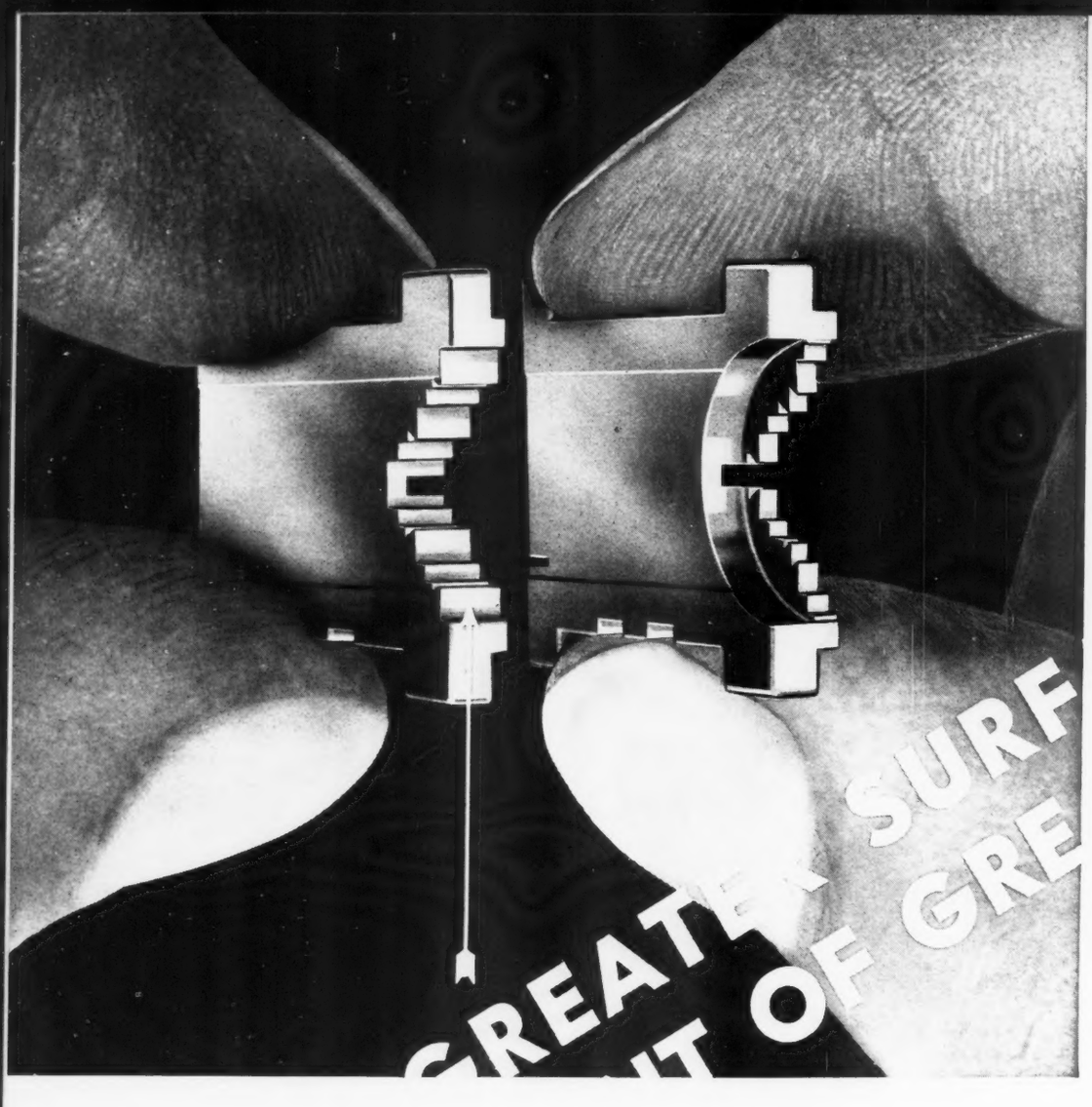
Incorporated 1918

BINGHAM BROTHERS COMPANY

(FOUNDED 1849)

ROLLER MAKERS

406 Pearl Street . . . New York	**521 Cherry Street . . Philadelphia**
980 Hudson Avenue . . Rochester	**131 Colvin Street . . . Baltimore**



Intertype Wide Tooth Matrices have Wider than Ordinary Teeth. The teeth of any matrix get more wear than almost any other part of the matrix. That's why Intertype Wide Tooth Matrices Last Long. They also Drop Straight on Intertypes as well as Other Line Composing Machines. Popular and Profitable Type Faces Cost No More on Intertype Wide Tooth Matrices.

INTERTYPE CORPORATION, 360 Furman Street, Brooklyn, New York
Chicago, 130 North Franklin Street; New Orleans, 816 Howard Avenue; San Francisco, 152 Fremont Street; Los Angeles, 1220 South Maple Avenue; Boston, 80 Federal Street; Canada, Toronto Type Foundry Company Limited, Toronto • Distributors Throughout the World

Set in Vogue Bold and Vogue Extra Bold